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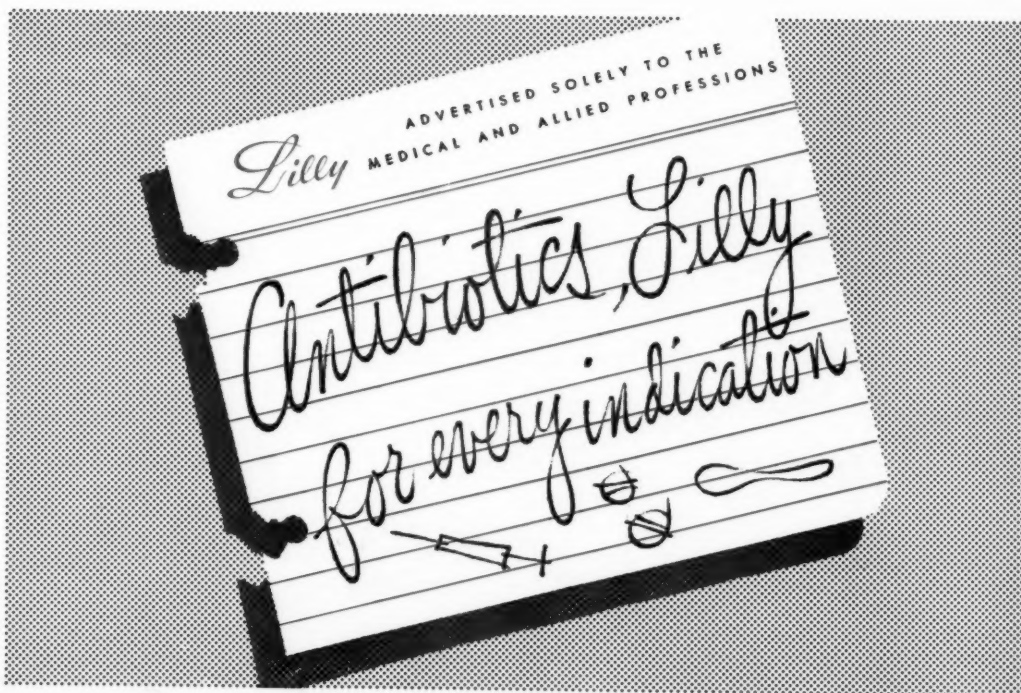
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# Minnesota Medicine

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

Volume 36

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Number 2

## Contents

INSIDE THE BRITISH HEALTH PLAN. <i>James Rogers Fox, M.D., Minneapolis, Minnesota</i> 125	Public Relations and the Medical Profession..... 159
HEMOLYTIC ANEMIA. <i>Paul S. Hagen, M.D., Minneapolis, Minnesota</i> 128	Dr. Dublin Retires..... 160
DANGER OF AMMONIUM CHLORIDE ACIDOSIS. <i>James Myhre, M.D., Minneapolis, Minnesota</i> 133	AMERICAN MEDICAL ASSOCIATION—Summary—Clinical Session..... 161
FRIEDLANDER'S PNEUMONIA. <i>John P. Dahlstedt, M.D., Mankato, Minnesota</i> 135	THE MINNEAPOLIS DIABETES DETECTION CAMPAIGN—1952 ..... 163
THE RESPONSIBILITY OF THE PRACTICING PHYSICIAN AND HEALTH DEPARTMENT IN THE CARE OF THE AGED. <i>Robert N. Barr, M.D., Minneapolis, Minnesota</i> 137	MEDICAL ECONOMICS: Hospital Accreditation Group Issues Progress Report ..... 164
THE USE OF HYDROCORTISONE ACETATE (COMPOUND F ACETATE) IN THE TREATMENT OF POSTTRAUMATIC BURSTITIS OF THE KNEE AND ELBOW. <i>Edward D. Henderson, M.D., and Charles C. Henderson, M.D., Rochester, Minnesota</i> 142	Editor Hits "Federal Thought Control"..... 165
SENILE NODULAR THYROID PATHY. <i>Harold H. Joffe, M.D., Duluth, Minnesota</i> 145	Communist Logic Falls Short..... 166
PHYSICAL SYMPTOMS OF DEPRESSION. <i>William S. Chalgren, M.D., Ph.D., Mankato, Minnesota</i> 148	MINNEAPOLIS SURGICAL SOCIETY: Meeting of October 1, 1952..... 167
HERPES ZOSTER WITH MOTOR PARALYSIS. <i>T. Paul Blanshard, M.D., M.R.C.P., Minneapolis, Minnesota</i> 152	Pancreatitis Complicating Common Duct Surgery. <i>Virgil J. P. Lundquist, M.D., Minneapolis, Minnesota</i> 167
CASE REPORT: Perforated Interventricular Septum. <i>David V. Sharp, M.D., Minneapolis, Minnesota</i> 153	Carcinoma of Cardiac End of Stomach and Esophagus. <i>Charles B. Puestow, M.D., Chicago, Illinois</i> 170
LABORATORY AIDS TO MEDICAL PRACTICE: Sulfobromophthalein Test of Liver Function. <i>Charles A. Owen, Jr., M.D., Rochester, Minnesota</i> 155	MINNESOTA ACADEMY OF MEDICINE: Meeting of October 8, 1952..... 172
PRESIDENT'S LETTER: A Good Beginning..... 157	Charles D. Freeman—Memorial..... 172
EDITORIAL: Panel Practice..... 158	Surgical Approach to Atelectasis in the Newborn. <i>O. S. Wyatt, M.D., T. C. Chisholm, M.D., E. Berglund, M.D., and W. P. Eder, M.D., Minneapolis, Minnesota</i> 172
Gamma Globulin in Polio..... 158	Synovial Sarcoma. <i>Stanley R. Maxeiner, M.D., F.A.C.A., F.I.C.S., and B. H. McLaughlin, M.D., Minneapolis, Minnesota</i> 174
	REPORTS AND ANNOUNCEMENTS..... 176
	WOMAN'S AUXILIARY..... 181
	IN MEMORIAM..... 182
	COMMUNICATION ..... 184
	OF GENERAL INTEREST..... 186
	BOOK REVIEWS..... 197

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# Minnesota Medicine

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## INSIDE THE BRITISH HEALTH PLAN

JAMES ROGERS FOX, M.D.

Minneapolis, Minnesota

PERHAPS it has not occurred to you that the practice of medicine in your own state is the optimum; that through all the trials and tribulations of patients, hospitals (or the lack of them), insurance, government forms and the like, your mode of practicing is not surpassed. Most of us have compared our brand of medicine and surgery here with other locales in the country and have come back to encourage some changes, but with the feeling that no other area is better. We are leaders in tuberculosis control, venereal disease control, child and maternity welfare and in the general approach to health. This point has been driven home to me more so since returning from Great Britain where I was fortunate enough to enter into their nationalized scheme. This arose from the fact that I was appointed a member of the visiting faculty at the University of Edinburgh which permitted me a living view of the teaching and specialties. On the other hand I was made a member of the British Medical Council Registry and as such saw patients on the basis of a general practitioner. This double situation permitted me the opportunity of studying and experiencing medicine in Britain with resultant impressions and comparisons with the United States. I shall limit my comments to those experiences in Britain, although my brief observations in other European countries suggested little better solutions of medical care.

To begin with, one cannot compare the United States and Britain. The traditions in Britain are more important to them than efficiency, and there is pride in this.

In addition there is one state the size of Minnesota, with about fifty million people. Moreover, politically and in the mechanisms of medi-

cine their approach is quite different from ours. This is very interesting because the results are not too dissimilar. The general practitioner generally has his office in his home and sees patients there, in their homes, or at a nursing home. The last is analogous (though much less desirable and seldom over forty beds) to the private hospital here. There are operating and obstetrical suites, but no laboratory nor x-ray. These procedures must be obtained through specialists if the general physician cannot do them himself. In addition he must supply his own instruments, gowns, and the like. The hospitals are ward in nature, such as our general hospitals and are limited to use by the specialist. Thus one easily can see that the gulf between the general physician and the specialist is broad. This has been increased since the adoption of the National Health Service, for the general practitioner is paid \$2.38 per head per year for up to four thousand patients whereas the specialist is given a salary for his hospital work. In addition he receives some government paid consultations over and above any that he may receive privately. Do you believe that you could see four thousand patients as often as they desire through a year? Since the change in administration, this is being dropped to thirty-five hundred, but there is still a great deal to be desired. What has happened is that the niceties of medicine have increased to the pleasure of many, but the health problem of the nation including tuberculosis, housing, and public health measures has been overlooked—a vote is too important.

Many features of the socialization scheme are not so bad as we have been led to believe, whereas others are worse. The paper work is minimal.

After the numerous service, veterans administration, and insurance forms we have thrust upon us, I fully expected to be swamped; however, such was not the case. There is but one prescription form; the physician keeps records as he desires. The new administration has found it necessary to set up nuisances in order to abate certain abuses. There is a charge of fourteen cents for each prescription and no glasses can be obtained without a general physicians' referral. As you can guess the latter merely hampers the doctor. One very undesirable feature is that a physician who in his judgment deems it unnecessary to make a call, may be reported to the local board. For the most part a patient accepts his decision, but should the patient report him, the doctor must appear before this board which is composed of lay persons. The board decides whether the physician was out of line medically.

Beds are difficult to get, especially for tuberculosis patients. At the Royal Infirmary of Edinburgh there were 1,400 patients waiting admission to this 1,500-bed hospital. However, all emergency cases were cared for immediately. The tuberculosis rate is very high; in fact it had been mounting recently. Tuberculosis beds are under a central control, as are certain medications such as aureomycin. One must show good cause for the use of either for his patient. This would be a desirable situation were it not for the fact that the human equation enters in and favoritism can spoil this control. Many patients with moderately advanced tuberculosis are ambulatory for months because of insufficient staffed beds. Public health measures beyond those for tuberculosis, such as for venereal disease, child and maternal welfare, immunization, water and milk sanitation and the like are literally a generation or more behind us, and yet the niceties are being made available. The physician does not have interference with his handling of patients beyond what I have mentioned. Patients select their doctor by signing the registry of the physician they desire until his maximum enrollment has been reached. Conceivably he could see others if they would pay directly, but where could he find the time? The physicians in general are not happy with this centralization of medicine, but now they are being paid for their endeavor. The specialist, who previously donated his time to the hospital, now receives a very adequate salary for that time in addition to

his practice. However, there are many of these who dislike the philosophy of the situation and believe it is a detriment to the country—this being based on the many errors of government-run enterprises already evident.

The people who are of the paternalistic, or "I deserve it" attitude, are in full accord with the program. The rest either accept it (and apathy is evident in many) or resent it. I took the opportunity of talking at length with physicians and persons in all walks of life throughout Britain and came to the conclusion that basically we are not at all unlike. The war with its exhaustion and the postwar administration made for considerable apathy. For this reason many years were lost and paternalism was fostered.

Just how the entire program was conceived is interesting. In 1911 the panel system, whereby the government began paying physicians for caring for their patients, was instituted. For many years this included only those who earned less than four hundred pounds a year. (This was equivalent to two thousand dollars but possessed a greater buying power). The program was carefully thought out and further extensions were becoming evident. The Conservative party, not the Labor party as we all have believed, was the originator of the program and was in the process of consultation (admittedly slow) with the British Medical Association, when the Labor party through its Bevan made the program a political football and with votes in mind rather than British health, thrust it through. This was greatly enhanced by the poor co-operation of the voting conservative population. The cost was estimated in 1948, when the plan was begun, at 510 million dollars. The mechanism was to be simple and it is, for the basic plan had been in effect for thirty-seven years. However, the cost in 1951 was 1.3 billion dollars and estimated at 1.5 billion dollars for 1952. The Conservative government has set a 1.2 billion dollar limit per year thereafter. However, one can see that some of the problems are being met, but slowly. Thus, as I have been told, "when we get the rough edges off and are used to the scheme, it will not be so bad."

In general then, what has happened is that a blanket scheme has hindered the progress in Britain. If the problem had been met as needed, the overwhelming cost and rather frequent misuse would not have occurred. The people now

may all see personal physicians, but this is also a disadvantage for one cannot maintain his professional level and still receive adequate remuneration. He is penalized for doing a thorough job. In addition the hospitals are full and with waiting lists. As a result the nursing homes are personal costs, which fact has stimulated personal insurance coverage. The doctor may see whom he desires and treat without interference; however I have noted the bed and drug problem. The personal pride in what were voluntary supported hospitals has left and in many places an unhappy air is evident. The plan hampers the general physician and most students now plan to be specialists. As a result rural care eventually will be difficult. But certainly the crux of the entire situation stems from the disregard of the true immediate and basic needs to institute a blanket program which even a wealthy country could not have ingested at one time.

In my discussions with the dozens of physicians throughout Britain extensive interviews were possible in sixty-six instances, which is but a cross section. All agreed that expanded medical care in Britain had been necessary, but not one was pleased with the manner in which it had been handled. There was a great deal of grumbling about the British Medical Association and its desertion of their resolutions. There were many facts to substantiate their claim that from the leaders down there was a regard only for personal security, which was a sudden departure, for many wanted to be "on the ground floor." In spite of all the difficulties, medicine at the specialist level and with these general men who have outside sources of income, is nearly as good as ours. Over and above the extension of care and niceties there are several features which are worthwhile. For example, the general physician may take two weeks a year with tuition and salary for a postgraduate course. Thus all is not so bad as we are so often told.

Just how this applies to the United States is not evident immediately. As I have stated before it is impossible to compare Great Britain and the United States for the reasons indicated. What is apparent and certainly analogous is the manner in which the program went into effect. In discussing this with local physicians I have found we have been drifting into exactly the same rut of being reticent about listening to any

suggestions. Rather we, through the AMA, for years have said no to all. It became evident to me that no matter how much time we spend saying no, eventually we shall be caught in a sweep, for politics has too many emotions with too few facts. British care was not at all antiquated and restricted, but it needed adjustment just as ours needs cost adjustment. What happened in place of a concrete plan by the British Medical Association you all know.

Thus, it is my feeling that a plan must be devised in medicine to preclude any possible necessity for its becoming political. I believe that a volunteer plan of the Blue Cross type is best, but that perhaps some *local* subsidization may prove necessary, as has been the case in general hospitals. Other reasons for this include the physician's too frequent misuse of the Blue Cross, the lack of an informed populace, and the to date poor public relations job done by medicine. Fortunately there is evidence of moderate but definite progress in the last two. Obviously there will be less stumping for a nationalized plan here for the next two to four years, which fact presents the ideal breathing space for positive action and the formation of a plan to bring to the public before politicians back us to our "no" wall again. The difficulty lies in the physicians' easy course of criticism with few doctors seeing beyond their own practice in the effort of establishing a necessary policy. This can be rectified by co-operation—not the type demonstrated in the British Medical Association.

Briefly I have presented the results of my experiences, observations, and studies in Great Britain. There are numerous other phases that could well warrant elaboration, such as the mishandling of the tuberculosis problem, the meager public health measures, the relative termination of the progress in industrial medicine, the varying but not promotive effect on college health, housing, et cetera. However, the conclusions which I reached through this raft of information are included. Moreover, I believe there are several ways that we could combat the Truman-Ewing political enterprise and its proponents by getting on the offensive.

Let us not, for a change, "have too little too late!"

*University of Minnesota  
Health Service*

## HEMOLYTIC ANEMIA

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**H**EMOLYTIC anemia is a rather common type of anemia in our hematologic experience at the Minneapolis Veterans Administration Hospital. For example, on the medical wards we are seeing at least twenty new patients a year who have hemolytic anemia. Some of these have congenital hemolytic syndromes, but in the majority the hemolytic anemia is acquired, often secondary to another disease.

### Classification

Hemolytic anemia is characterized by an excessive rate of red cell destruction so that the normal 100- to 120-day life span of the red cell is shortened. In some of these patients the average life of the red cell is only a few days.

Marking of the red cells by various tracer techniques has aided greatly in the understanding of the general processes involved in the *in vivo* destruction of red cells in the various hemolytic anemias. Heavy nitrogen, radiocarbon and radioiron are useful in studying red cell dynamics. However, the most versatile method for tracing the fate of red cells utilizes the natural agglutinogens of the red cell. This method is known as the Ashby differential agglutination technique.<sup>1</sup> Red cells that are compatible but serologically identifiable are transfused, and the rate of their disappearance is followed. For example, Group O cells are given to a Group A recipient. Serial blood samples are drawn, the recipient's cells removed by agglutination with anti-A serum, and the donor cells which remain freely suspended are counted. These values are plotted against time on graph paper. The resulting graph shows the pattern of disappearance of the transfused cells and from

this graph the average life of the transfused red cells can usually be calculated.<sup>4</sup> The MN blood groups are used in a similar fashion. Cross transfusion studies are useful to determine whether a hemolytic anemia is due to faulty red cells (intrinsic defect) or whether the increased rate of red cell destruction is due to environmental (extrinsic) factors. In these studies the patient's cells are transfused and followed in a normal individual while normal cells are transfused and followed in the patient. If the patient's cells disappear rapidly in the normal while normal cells live a normal length of time in the patient it is apparent that the hemolytic anemia is due to an intrinsic defect of the cell. However, if there are extrinsic hemolytic factors present in the patient, transfused normal cells will be destroyed at an increased rate. On the basis of these differential agglutination studies the hemolytic anemias fall into two major categories:<sup>12</sup> I. Hemolytic anemia due to intrinsically defective red cells, and II. Hemolytic anemia due to extrinsic causes. Occasionally an anemia in group I can be complicated by some extrinsic abnormality.

Hemolytic anemias due to intrinsic defects include: 1. Hereditary spherocytosis (familial hemolytic anemia, congenital hemolytic jaundice). 2. Sickle cell anemia. 3. "Mediterranean" anemia. 4. Hereditary non-spherocytic anemia. 5. Paroxysmal nocturnal hemoglobinuria. Although pernicious anemia is not a hemolytic anemia in the usual sense, the cells are abnormally constructed and have a shortened life span.<sup>8,10,17</sup> The hemolytic anemias due to extrinsic factors constitute a large group caused by many different agents.

### Mechanisms of Abnormal Red Cell Destruction<sup>13</sup>

Cells with intrinsic defects are destroyed by different mechanisms depending upon the nature of the defect of the cell. For example, the sickle cell because of certain abnormalities of its hemoglobin and cytoskeleton becomes sickled when it is exposed to low oxygen tension. This abnormal shape leads to impaction of these cells in the capillaries of various organs with subsequent hemolysis. In hereditary spherocytosis the cells

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issuing from the bone marrow are thicker than normal.<sup>2</sup> It has been demonstrated in two different laboratories<sup>5,22</sup> that these thicker than normal cells are selectively trapped in the splenic pulp where they undergo changes leading to disintegration. It is believed<sup>22</sup> that the spherocytic cells are trapped because they cannot escape from the splenic pulp as easily as cells of normal thickness through slit-like openings into the venous sinusoids. Actually these hereditary spherocytic cells have been found to have an essentially normal life span when they are transfused into splenectomized individuals.<sup>14</sup> The chief reason for the success of splenectomy in this disease is now apparent. In "Mediterranean" anemias increased fragmentation of the abnormally constructed cells appears to be an important mechanism of early destruction.

The second group, hemolytic anemias due to extrinsic factors, are the hemolytic anemias more frequently encountered in our experience. In these syndromes, normal red cells are produced by the bone marrow but they are injured by a wide variety of agents which cause their early destruction. These extrinsic agents can injure the red cell envelope directly or they may interfere with the internal metabolism of the red cell leading to its disintegration. A number of these agents undoubtedly attack the cells in both general ways.

Septicemia with various bacteria, intracellular parasites, many drugs and chemicals, full thickness burns, certain animal and vegetable poisons have been noted to cause excessive red cell destruction. However, most of the acquired or "extrinsic" hemolytic anemias encountered are associated with immune body reactions. These are of several types. For example, there are isoagglutinins related to the various blood groups including Rh sensitivities. Cold hemagglutinins are another type of immune body reaction. These are often associated with some illness, such as primary atypical pneumonia, leukemia, or as we have recently seen, cirrhosis of the liver. "Cold" and "warm" hemolysins are other types of immune bodies demonstrable in hemolytic anemias.

"Extrinsic" types of hemolytic anemias are found at times with various primary diseases<sup>19</sup> and are often referred to as "symptomatic" hemolytic anemias.<sup>16</sup> "Symptomatic" hemolytic anemia is the most frequent type of hemolytic anemia we have seen. For example, we have found evi-

dence of excessive red cell destruction as follows: rather frequently in patients who have lymphocytic leukemia, myelocytic leukemia, Hodgkin's disease and other lymphomas; in at least two patients with carcinomatosis involving the bone marrow; occasionally with cirrhosis of the liver; at times in primary atypical pneumonia when there is a high titer of cold hemagglutinins; infectious mononucleosis; "Felty's" syndrome (rheumatoid arthritis, leukopenia, anemia and splenomegaly); polyarteritis nodosa; in a patient who is a salmonella carrier and has a high antibody titer; and in a patient with "burned out" polycythemia vera who had leukemia and a huge spleen. Hemolytic anemia has been found with uremia, hyperthyroidism, lupus erythematosus, Boeck's sarcoid as well as other diseases. Among this group of hemolytic anemias due to extrinsic factors are some syndromes in which there is no apparent underlying cause for the excessive red cell destruction. These are usually referred to as "idiopathic" acquired hemolytic anemias.

In perhaps about half of these "symptomatic" and in a higher per cent of the "idiopathic" hemolytic anemias it is possible to demonstrate the presence of abnormal immune body reactions by the methods available today. However, as methods for detection of abnormal immune bodies improve it is possible that immune bodies will be demonstrable in most of these particular hemolytic anemias.

#### Recognition of an Increased Rate of Red Cell Destruction

The frequency of diagnosis of hemolytic processes is directly proportional to a high index of suspicion. A family history of anemia may indicate the presence of one of the congenital hemolytic anemias. The possibility of exposure to industrial chemicals such as lead, benzene, aniline and others, must be inquired into. A detailed history as to the ingestion of drugs, chemicals or animal and vegetable poisons may be revealing. This type of inquiry, for example, led to the solution of acute hemolytic anemias in certain children<sup>23</sup> who had eaten moth balls. The large number of diseases with which hemolytic anemias have been noted must be kept in mind. In short, whenever confronted by a patient with anemia, an excessive rate of blood destruction must be considered as one of the possible causes of the anemia.



### A. Signs indicative of increased red cell destruction.

#### 1. Physical findings

*a. Splenomegaly.*—There is a rather high degree of correlation but hemolytic anemias may be present without splenomegaly. On the other hand, splenomegaly often occurs without increased red cell destruction.

*b. Jaundice.*—Excessive hemolysis must always be included in the differential diagnosis of jaundice. It is important to note that excessive hemolysis is not always accompanied by jaundice. The presence or absence of jaundice depends upon the ability of the liver to excrete bilirubin.

#### 2. Laboratory findings

*a. Serum bilirubin.*—If serum bilirubin increases and gives an "indirect" Van den Bergh test, increased red cell destruction is quite likely. (Characteristically, no bilirubin is found in the urine under these circumstances.) However, as indicated above, the serum bilirubin level depends upon liver function and so may or may not be elevated even though a rather marked degree of hemolysis is present.

*b. Peripheral blood.*—Examination of a stained blood film often leads to the diagnosis of hemolytic anemia. Spherocytosis whether due to hereditary defects of the red cells or caused by circulating injurious agents is highly suggestive of increased hemolysis. Poikilocytosis is another sign associated with a shortened life of the red cell. This may represent excessive fragmentation of the red cells which can result from chemical injury such as has been observed in naphthalene poisoning, or from abnormally formed cells as in "Mediterranean" anemia. Sick cell anemia can occasionally be diagnosed from the ordinary stained blood film.

Signs of increased red cell regeneration in the peripheral blood may be the result of an increased rate of red cell destruction. Large cells with a bluish-gray tinge (polychromatophilic cells) are young cells and if present in increased numbers usually indicate increased red cell regeneration. The finding of nucleated red cells often has similar implications.

Basophilic stippling represents precipitation of remnants of the ribonucleoproteins which are found in early forms of the cells.<sup>20</sup> Heavy metal poisoning causes stippling, and increased stip-

pling also occurs in a variety of anemias. From whatever cause, the finding of many stippled cells means an increased number of young red cells in the circulation.

*c. Osmotic fragility test.*—A simple two tube test<sup>7</sup> can be performed in the office. Because spherocytes rupture more easily than normal cells in hypotonic salt solutions, a positive test confirms the presence of spherocytes found on the blood film.

*d. Reticulocyte count.*—Normally only 0.5 to 1.5 per cent of the circulating red cells show reticulation. Increased numbers of reticulocytes generally indicate increased red cell regeneration. If blood loss and response to therapeutic agents can be ruled out, the increased regeneration usually results from increased red cell destruction. However, it must be emphasized that increased hemolysis may occur without a reticulocyte response.

*e. Sick cell test.*—This test is indicated in every anemic patient in whom there may be even a remote chance of some Negro blood. It is best to use a chemical reducing substance such as a 2 per cent solution of sodium metabisulfite mixed in equal amounts with blood on a slide and cover-slipped.<sup>7</sup> If the test is positive at least one important potential cause of the anemia is known.

*f. Tests for abnormal immune antibodies.*—Most of these should be carried out in experienced, competent laboratories. The finding of antibodies is suggestive that abnormal hemolysis is present. However, antibodies can be present without evidence of increased hemolysis, and increased hemolysis can be present without the demonstration of antibodies. The following are the usual tests for antibodies:<sup>7,20</sup> Coombs' test (direct and indirect), trypsinated cell test,<sup>21</sup> cold agglutinin titer, Donath-Landsteiner reaction, special examinations for other "cold" hemolysins, and tests for "warm" hemolysins. The acid serum test for the abnormal cells of paroxysmal nocturnal hemoglobinuria is included with this group although it is not a test for immune bodies.

One simple test for immune bodies of the cold agglutinin variety can be performed anywhere. It consists of chilling a sample of blood which has been collected into an anticoagulant. With a high titer of cold agglutinins the blood becomes granular. Upon rewarming, the blood again becomes smooth. Increased hemolysis may or may not be present when this test is positive.

*g. Hemosiderinuria.*—Large amounts of hemosiderin may be consistently found with chronic hemoglobinemia and hemoglobinuria, conditions which are found in paroxysmal nocturnal hemoglobinuria. This finding was recently of great help in the diagnosis of a patient with paroxysmal nocturnal hemoglobinuria.

*h. Bone marrow.*—Erythroid hyperplasia frequently is the result of increased demands resulting from increased hemolysis, but other causes must be strongly considered. Bone marrow examination may prove helpful by showing evidence of a primary disease such as a leukemia or carcinomatosis.

#### *B. Diagnostic signs of increased red cell destruction.*

##### *1. Hemoglobinemia and hemoglobinuria*

Hemoglobinemia results from intravascular hemolysis. Hemoglobinuria occurs whenever the plasma hemoglobin level exceeds the renal threshold for hemoglobin. In most of the hemolytic anemias the hemolysis takes place at a slower rate and apparently "extravascularly" because hemoglobinemia is uncommonly seen. Severe transfusion reactions and certain septicemias frequently have hemoglobinemia. Also, we have seen a patient with chronic lymphatic leukemia who had two or three acute episodes of hemoglobinemia. Paroxysmal cold and paroxysmal nocturnal hemoglobinuria regularly show hemoglobinemia. But usually the diagnosis of increased hemolysis must be made on other evidence.

##### *2. Fecal urobilinogen*

The most useful and practical means to diagnose an increased rate of red cell destruction is the quantitative determination of the average daily output of fecal urobilinogen in a four-day stool collection.<sup>15</sup> Although heavy nitrogen tracer studies have indicated there is more than one source of fecal urobilinogen<sup>9</sup> from a clinical point of view, when the fecal urobilinogen is increased an increased rate of red cell breakdown is present. For most helpfulness, the fecal urobilinogen should be related to the circulating hemoglobin mass either as an "apparent wastage"<sup>18</sup> figure or as a "hemolytic index" figure.<sup>11</sup>

It is important to realize when interpreting fecal urobilinogen values, that falsely normal

values can occur. Antibiotics such as aureomycin and terramycin given even in small doses can alter the intestinal flora so that the bilirubin is not converted to urobilinogen in the usual way. Other unknown factors also interfere with this conversion. Constipation and diarrhea may lead to erroneous results. If the sample weighs less than about 300 grams, it should not be considered as an adequate four-day stool specimen.

##### *3. Red cell tracer studies*

As outlined above, the red cell tracer methods, especially the Ashby technique, not only can show the presence of increased red cell destruction but also can be used to differentiate whether intrinsic or extrinsic factors are causing the excessive breakdown. However, the isotopic tracer studies are strictly research methods, and few would agree that even the Ashby technique could be considered a clinical procedure.

In general then, the diagnosis of increased red cell destruction, in the absence of hemoglobinemia, must be made on the basis of the signs of increased red cell destruction and regeneration coupled with reliable fecal urobilinogen determinations.

#### **Treatment of Hemolytic Anemia**

Since hemolytic anemia can arise from a wide variety of causes, rational therapy demands that the pathogenesis of the excessive blood destruction must be accurately diagnosed in the individual patient. When an infectious disease is the cause, appropriate specific treatment of the infectious disease is the avenue of approach. When the hemolysis is due to toxic agents there is no specific therapy other than insurance against further exposure to the inciting agent.

Whenever severe hemolytic anemia is associated with hyperimmune bodies treatment with ACTH or cortisone can be tried. There is some evidence that ACTH and cortisone reduce the titers of the antibodies. Some reports are enthusiastic about the results.<sup>3</sup> Our own limited experience has not been too gratifying. However, if the hemolytic process with immune antibodies is so severe as to require therapy, ACTH or cortisone should be tried if no contraindications exist.

In the patient with symptomatic hemolytic anemia, at times treatment directed at the primary disease may prove fruitful. For example, we have rarely seen patients with lymphocytic leu-

kemia whose hemolytic processes have decreased markedly after deep x-ray therapy. In one instance the x-rays were directed to the spleen while in another patient mediastinal and axillary lymph nodes were irradiated. Blood transfusions also were given. The second patient previously had had his spleen removed.

"Idiopathic" acquired hemolytic anemia sometimes is self-limited but occasionally requires aggressive therapy: ACTH or cortisone; at times splenectomy.

**Splenectomy:** Splenectomy is not indicated when septicemia, parasitic invasion of the red cells, or chemical poisoning causes hemolytic anemia. However, in other hemolytic anemias, whenever the spleen is large and the hemolytic process fulminating, splenectomy may give dramatic results. Often, however, there is no real response. In certain patients with leukemia, when excessive hemolysis is the immediate problem, splenectomy may prove beneficial in reducing the transfusion demands.<sup>6</sup> Splenectomy can be expected to give good results nearly 100 per cent of the time only in hereditary spherocytosis; otherwise the results are variable. Splenectomy itself has a low mortality rate, but partly because of the danger of postoperative thrombotic processes, we have been rather conservative in recommending the procedure.

**Blood transfusions:** For supportive therapy blood transfusions are the mainstay. However, there is greater danger of transfusion reactions in patients with hemolytic anemia than in others. This is especially true in those who have hyperimmune bodies. With chronic hemolysis requiring repeated transfusions the danger of producing exogenous hemosiderosis is real. Therefore, to help limit the amount of blood transfused, it is best not to attempt to keep the hemoglobin higher than 10 gm. per 100 ml. of blood.

**Iron:** In general, iron should not be given to patients with hemolytic anemia. They are not losing iron and therefore do not need iron. Theoretically, iron therapy is objectionable because it adds to the iron stores of the body. The iron stores are increased by the iron of transfused blood cells and so iron therapy may help to produce exogenous hemosiderosis. Paroxysmal nocturnal hemoglobinuria with its consistent loss of iron (hemosiderinuria) is an exception.

**Liver (Vitamin B<sub>12</sub>):** Of no use in the hemolytic anemias.

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Veterans Administration Hospital

MINNESOTA MEDICINE

## DANGER OF AMMONIUM CHLORIDE ACIDOSIS

### Report of Case

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**E**NTERIC-COATED ammonium chloride is a valuable diuretic agent in the treatment of congestive heart failure. When it is used in conjunction with the mercurial diuretics, it enhances diuresis by potentiating the action of the organic mercurial. These valuable drugs are in common general usage. It is felt that the danger of acidosis from ammonium chloride often is not too well appreciated and therefore an illustrative case is being reported to call attention to this real danger.

The diuretic action of ammonium chloride may be due to two factors.<sup>1</sup> One hypothesis is that when the kidney is presented with an excess of chloride ions, it excretes the chloride with water. Another is that the increased body acidity from the "acid producing" salt causes the increased excretion of salt with water to maintain a balanced composition of body fluids. The exact method of potentiation of the diuretic action of the organic mercurial diuretics by ammonium chloride is as yet not completely defined.<sup>2</sup>

**Case 1.**—A seventy-five-year-old white woman was first seen on June 12, 1951, complaining of shortness of breath on exertion, need of being propped up on four or five pillows to sleep, and swelling of the ankles for two years. She also complained of a severe lower lumbar backache since gaining a great but inexact amount of weight during the past six months. She had been living alone, had been quite depressed and had been eating poorly. There was a history of high blood pressure of twenty years duration.

On physical examination she was 5 feet 1½ inches tall and weighed 231 pounds. There was bilateral thickening of the ear drums, purulent crusting in the right nasal cavity and cloudiness of both maxillary sinuses on transillumination. There was marked fetor oris and a mild generalized pyorrhea alveolaris. Good visualization of the fundi was not possible. The blood pressure in the right and left arms was 180/120 mm. Hg. The heart was enlarged to the left and the sounds were distant. Moist râles were heard at both lung bases. A sharp liver edge was found four fingers below the right costal margin. The spine was rather fixed with only forward and backward bending and pain on bending to either side, especially to the right. There was moderate pitting edema of the lower extremities. Both ankle jerks were absent.

**Laboratory Studies.**—There were 14.3 grams % (Evelyn) or 91.7 per cent hemoglobin with 4.88 million red blood cells and a hematocrit of 45 per cent. There were 10,800 white blood cells with a normal differential count. The sedimentation rate was 62 millimeters per hour (Westergren). The urine had a specific gravity of 1.020 with a trace of albumin and eight to ten white blood cells in a high-powered field. The Kolmer-Wassermann was four plus. Two stool specimens were negative for occult blood. An agglutination test for brucellosis was negative. The vital capacity was 1.2 litres of 39 per cent. The calcium gluconate circulation time was twenty-one seconds (normal ten to sixteen seconds). An electrocardiogram indicated myocardial damage with a low T, low T waves in the V leads, and a left axis deviation. X-ray examination of the lumbosacral spine showed hypertrophic arthritis and osteoporosis of the lumbar spine and minimal hypertrophic arthritis of both sacroiliac joints.

**Clinical Course.**—The patient was admitted to the hospital on June 21, 1951, weighing 228 pounds, and was placed on an 800 calorie salt-free diet (1 gm. of sodium per day), digitalis, ammonium chloride, and mercurial diuretics. The blood urea nitrogen on admission was 7.8 mg. per cent. She was given 1 cc. mercuhydrin on the first hospital day, 1.5 cc. on the fifth hospital day, and 2 cc. on the ninth hospital day. She was given 2 gm. of enteric-coated ammonium chloride four times daily for the first twelve days. On approximately the tenth hospital day she became quite anorexic, and this was followed by severe weakness, clouding of her sensorium, confusion, and incontinence of urine. The CO<sub>2</sub> combining power on the twelfth hospital day was 26 volumes per cent with a plasma chloride of 674 mg. per cent (normal 540-620) and a blood urea nitrogen of 62.5 mg. per cent. The blood sugar was .119 mg. per cent, and the serum sodium was 149 milli-equivalents (normal 138-146). The serum potassium was 16 mg. per cent (normal 16-22). Four times in twenty-four hours she was slowly given 250 cc. of five per cent sodium bicarbonate intravenously. Definite clinical improvement was observed in twelve hours, and in three days the CO<sub>2</sub> combining power was 56 volumes per cent with a plasma chloride of 639 mg. per cent. On the eighteenth hospital day the blood urea nitrogen was normal with a plasma chloride of 558. From then on she tolerated the salt-free diet and digitoxin well and was discharged on July 17, 1951 (twenty-sixth hospital day) weighing 213 pounds. In May 1952, the patient was feeling well and the urinalysis was normal with a maximum specific gravity of 1.024 on a urine concentration test.



### Conclusions

A patient with congestive heart failure became anorexic, weak, confused, incontinent, and semi-comatose during treatment including ammonium chloride. A cerebrovascular accident and salt depletion syndrome had to be considered. The symptoms were, however, proved to be caused by ammonium chloride acidosis, and the patient responded dramatically to intravenously administered sodium bicarbonate. This entity can be rather subtle especially when limited laboratory facilities are available. Ammonium chloride must be used cautiously where associated renal disease is suspected or present, and this is difficult to establish in congestive heart failure. Renal insufficiency in congestive heart failure would only be suspected in the presence of albuminuria, oliguria, and mild elevation of the blood urea nitro-

gen or non-protein nitrogen. Significant renal disease should, however, be greatly suspected<sup>3</sup> when there is marked persistent albuminuria, low-fixed specific gravity, and elevation of the blood non-protein nitrogen above 60 mg. per cent. In these instances ammonium chloride must be administered with extreme caution. It is believed that ammonium chloride for diuretic purposes should not be given over three days a week unless repeated CO<sub>2</sub> combining power determinations are made.

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### THE SOCIALIST-COMMUNIST IDEA

As a teacher in public schools, I find that the socialist-communist idea of taking "from each according to his ability" and giving "to each according to his need" is now generally accepted without question by most of our pupils. In an effort to explain the fallacy in this theory, I sometimes try this approach with my pupils:

When one of the brighter or harder-working pupils makes a grade of 95 on a test, I suggest that I take away 20 points and give them to a student who has made only 55 points on his test. Thus each would contribute according to his ability and—since both would have a passing mark—each would receive according to his need. After I have juggled the grades of all the other pupils in this fashion, the result is usually a "common ownership" grade of between 75 and 80—the minimum needed for passing, or for survival. Then I speculate with the pupils as to the probable results if I actually used the socialistic theory for grading papers.

First, the highly productive pupils—and they are always a minority in school as well as in life—would soon lose all incentive for producing. Why strive to make a high grade if part of it is taken from you by "authority" and given to someone else?

Second, the less productive pupils—a majority in school or elsewhere—would, for a time, be relieved of the necessity to study or to produce. This socialist-communist system would continue until the high producers had sunk—or had been driven down—to the level of the low producers. At that point, in order for anyone to survive, the "authority" would have no alternative but to begin a system of compulsory labor and punishments against even the low producers. They, of course, would then complain bitterly, but without understanding.

Finally, I return the discussion to the ideas of freedom and enterprise—the market economy—where each person has freedom of choice, and is responsible for his own decisions and welfare.

Gratifyingly enough, most of my pupils then understand what I mean when I explain that socialism—even in democracy—will eventually result in a living death for all except the "authorities" and a few of their favorite lackeys.—A letter from THOMAS J. SHELLY, teacher of economics and history, Yonkers High School, Linden and Poplar Streets, Yonkers 2, N. Y., Jan. 20, 1951. *Pennsylvania Medical Journal*, December, 1952.



## FRIEDLANDER'S PNEUMONIA

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**A** CORRECT diagnosis is facilitated by the physician's bearing in mind the existent possibilities and probabilities. There is perhaps a tendency in recent years to ascribe many obscure infections to a "virus" without having first exhausted the other existent possibilities. It seems, therefore, apropos to call attention at this time to Friedlander pneumonia.

While Friedlander's pneumonia is a relatively infrequent type—having been estimated at from 0.5 to 5.0 per cent of all pneumonias—it is none-the-less important. It is a severe disease with a high mortality—of 70 to 80 per cent—and with a high incidence of complications in those cases which survive.

Since the ordinary types of pneumonia have shown a relative decline, and the atypical pneumonias a relative increase in incidence, and because Friedlander's responds not to penicillin, Aureomycin or Terramycin, early recognition and the institution of proper therapy are of paramount importance. The causative agent is the Friedlander bacillus, or *Bacillus mucosus capsulatus*, a short Gram-negative non motile rod with a thick capsule. Friedlander's pneumonia is more common in males in a ratio of five to one. It is most common in the age bracket of forty to sixty-five, only a few cases having been reported in children. There is a higher incidence in the winter months. Alcoholism, malnutrition and other debilitating influences are thought to be important predisposing factors. Any lobe or combination of lobes may be affected. The consolidation is often lobular or confluent rather than lobar. The involved portion of the lung is voluminous. There is considerable plural inflammation with a reddish, fibrinous exudate. The alveolar exudate is abundant, and characteristically tenacious. The lung parenchyma is frequently destroyed with frequent formation of pus-filled abscesses. Pulmonary edema, pleural effusion, empyema, and pericarditis are complications often found at autopsy, and jaundice occurs in over 10 per cent of acute cases.

The disease usually begins abruptly with the onset of a more or less productive cough, pleuritis, perhaps hemoptysis, and chills. There may be cyanosis and dyspnea.

The patient may appear desperately ill, much more so than the physical findings would indicate, for the physical signs of this disease are not diagnostic. The temperature most commonly is 102 degrees or under, and there may be only a relatively slight leukocytosis. The sputum is thick and tenacious, at times very viscid. Until the use of streptomycin altered the outcome, the usual course was to an early death in two to six days, with a mortality rate of from 70 to 80 per cent. A few patients respond quickly and completely, while a third group progresses to a chronic form of this disease, with the formation of one or more thin walled abscesses. It is felt there is a definite tendency for tuberculosis to develop subsequent to Friedlander's pneumonia.

This disease must be differentiated from other bacterial pneumonias—influenzal, pneumococcic, streptococci, and staphylococcic, and from the so-called virus pneumonias. The patient with Friedlander's infection is usually a male over forty years of age, often with a history of a preceding chronic respiratory infection. He is obviously gravely ill. Herpes labialis—as seen frequently in lobar pneumonia—is uncommon; the sputum is usually thick, glairy, mucoid, and often red. Physical findings are not commensurate with the degree of lung involvement. In pneumococcic pneumonia the temperature is usually high and the physical findings of lobar consolidation characteristic. The respirations are short, grunting, and rapid, and the sputum rust colored. A well marked leukocytosis is noted, predominantly of the polymorphonuclear type. In hemolytic streptococcic pneumonia, the disease often follows infection elsewhere in the body with pharyngitis, laryngitis, and tracheo-bronchitis commonly preceding pneumonia. Staphylococcic pneumonia is usually seen in early childhood, as is the influenzal pneumonia. Virus pneumonia is more common in young adults and its onset tends to be gradual, rarely accompanied by a true chill. Weakness and persistent cough

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are common, but severe prostration and death are rare.

On x-ray, Friedlander's pneumonia must be differentiated from pulmonary tuberculosis and neoplasm, and from an x-ray standpoint three different classifications of Friedlander's have been noted. First of these is the massive lobar consolidation type in which a single lobe or an entire lung field may be obscured by a dense uniform exudate which may give the appearance of bulging. Second of these is the lobular consolidation type with a patchy irregular density later becoming confluent. The third group is a chronic form characterized by lung abscess formation and pulmonary suppuration. The abscesses may form relatively early in the course of Friedlander's infection and apparently are due to parenchymal destruction with filling of the area by a thick, tenacious exudate accompanied by atelectasis and ischemia. Changes may closely resemble tuberculosis or bronchiectasis.

### Case Report

The patient is a fifty-nine-year-old white male mechanic. His father died of pulmonary tuberculosis. The patient had been well until the latter part of April, 1952, although he stated he had lost some 25 to 30 pounds in weight since January, 1952. His initial symptoms had been pain in the right scapular region with generalized malaise, and a persistent and unproductive cough.

During the first week of May, 1952, he noted not only an increasing weakness, but the onset of chills and fever, and some productiveness of the cough. He came to my office on May 9, scarcely able to drag himself into the reception room. Examination at that time revealed a temperature of 100.8°F, respiration of 28, and a pulse rate of 84. The eyes, ears, nose, and throat, were not remarkable. There was no cervical or other adenopathy, and the skin was moist with no cyanosis or flushing. The heart was regular at a rate of eighty-four with the tones distant and the left heart border 13 cm. to the left of the midsternal line. The blood pressure was 100/60 mm. Hg. A few moist rales were heard at each base posteriorly and there was thought to be diminished resonance in the right interscapular area with a slight decrease in breath sounds over the same region. The abdomen was soft, flat, nontender, with liver, kidneys, and spleen not palpable. The genito-urinary system was normal, and a rectal examination negative. The extremities were not remarkable. In December of 1951, this man had had a thorough examination including a chest x-ray which was essentially negative.

The patient was hospitalized on May 9, and a chest film made in addition to a complete blood count, sedimentation rate, and urinalysis. The hemoglobin at that time was 11.6 gm., the red count was 4 million, the white blood count 5,200, and the sedimentation rate by

the Westergren method was 115 mm. per hour. The chest film revealed a marked, fairly soft infiltration throughout most of the right lung field, most marked in the upper portion with fibroid strands radiating upward and laterally from the right hilum.

Because the patient appeared so desperately ill, intensive therapy with penicillin and Aureomycin was begun at once. He was also digitalized because the moist rales at each base and the increase in heart size on x-ray would indicate a beginning decompensation. Sputum was obtained for bacteriological study and for Papanicolaou stain, but because of somewhat limited laboratory facilities locally, the specimen was sent to a metropolitan laboratory. Penicillin and Aureomycin were continued, and because the patient appeared clinically to have an overwhelming infection, it was decided to support him further with whole blood transfusions, which were given on May 13 and May 14. A 1:1000, and subsequently a 1:100 Mantoux test were both negative. Reports from the State Board of Health repeatedly were negative for acid-fast bacilli. However, for some reason or another we were unable to receive a report of any other pathogenic flora. On May 19, dihydrostreptomycin 0.5 Gram every twelve hours, and triple sulfa 1 gm. four times daily was substituted for penicillin and Aureomycin. Subsequent to this the patient's temperature remained below 100°F orally, and he improved generally with only little productive cough. However, the chest films did not reveal a commensurate improvement. On May 19, a heavier degree of infiltration was noted in the right upper lung field with evidence of multiple cystic areas as had been seen before. On May 26, a slight band of infiltration had begun in the second and third interspace on the left with no change on the right. On June 2, this infiltration on the left had increased. Meanwhile, on May 30, the patient had refused further injections and finally on June 5 left the hospital to remain in bed at home. On June 3, however, before his dismissal from the hospital, a bronchoscopy was performed by Dr. J. D. Sjoding. This was essentially negative, but some exudate was aspirated and bacteriological studies on the exudate confirmed the diagnosis of Friedlander's pneumonia, and the patient was then prevailed upon to continue streptomycin, and triple sulfa. In three days more he became afebrile and gained in strength and appetite. After four days with no fever the medications were stopped. He continued to improve until on July 18 when he was suddenly stricken with a severe chill and his temperature rose to 103°F. Dihydrostreptomycin in 0.5 Gram doses twice daily was reinstituted, and the triple sulfa in one gram doses four times daily was also begun. He responded nicely, clinically, and has continued to do so until the present time, although there is still considerable infiltration in the left upper lung field on x-ray.

The patient has now agreed to continue medication as long as I consider it necessary, and at the present time remains afebrile, and feels well generally. It is to be hoped that he will continue to improve, and that he may progress to a favorable outcome without the necessity for surgical interference.

(Continued on Page 144)

## THE RESPONSIBILITY OF THE PRACTICING PHYSICIAN AND HEALTH DEPARTMENT IN THE CARE OF THE AGED

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MINNESOTA has been fortunate not only in its natural resources but in the people that first settled in this area even when it was known as a part of the Dakota Territory. They were persons of high ideals, who believed in local independence of government, universal education, and individual initiative and responsibility. They put these convictions into action as is illustrated by our township form of government, the provision for a University in our State Constitution and the constitutional provision that two sections of land in every township in the State be set aside for school purposes.

These convictions have persisted and today color our present thinking and action and have had a definite effect on our present form of health organization and activities. We believe they account for the fact that Minnesota was the third state to organize a State Department of Health in 1872 through the leadership of Dr. Charles N. Hewitt and the State Medical Association; for the fact that the Board of Health consisting of nine members trained in sanitary science and appointed by the governor serving overlapping terms of three years has never been dominated by partisan politics, and that during this entire period, 1872 to date, we have had only four state health officers. Our state's health officer and its health staff have enjoyed the prestige of being leaders in the many health fields at both the state and national level.

We believe that these early activities and principles of organization, administration and health programs account for the fact that there has always been a close working relationship among the medical, nursing and dental professions, the hospitals, the University of Minnesota, the many voluntary agencies interested in health problems, and the State Department of Health. Likewise similar relations have been established with the numerous other official and non-official agencies whose program and services parallel or even in some instances, overlap those of the Department

of Health. For example, in the early years, the Health Department laboratories and most of its services were moved to the University campus; thus the University of Minnesota Medical School and the State Board of Health jointly employed certain technical personnel in order to be able to secure men of outstanding ability and national reputation. This is no longer necessary and has been discontinued, but this relationship is still a real incentive in attracting staff for both organizations, and each organization gives the other certain technical advice and assistance. The Department of Health provides laboratory service to the University Hospitals and Health Service and instruction in certain public health and laboratory courses. Most of the health officers of the townships, villages, cities and counties in Minnesota are local practicing physicians under the general supervision of the State Board of Health who "cause all laws and regulations relating to the public health to be obeyed and enforced."

In 1911, the medical profession, the Minnesota Public Health Association (Tuberculosis Association) and the Minnesota Department of Health completed a study relative to the state's need for sanatoria and an accelerated tuberculosis control program. In 1913 the Legislature provided for the organization of county and multicounty sanatorium commissions, appropriated funds to aid in the construction and equipment of sanatoria and funds to subsidize the treatment of the patients. By 1920, Minnesota had fourteen county sanatoria in addition to its state sanatorium. The bed totals of these institutions greatly exceeded the present accepted standard of 2.5 beds for each annual death from tuberculosis.

Today several of these local sanatoria, having served their purpose, are being converted to meet the need for nursing homes and old people's homes. For many years the care and medical treatment of patients in sanatoria have been reviewed regularly by a committee of physicians outstanding in the field of tuberculosis. This committee is nominated by the Minnesota Trudeau Society and officially appointed by the State Board of Health.

Dr. Barr is with the Minnesota Department of Health. Read at the Annual Meeting of the Southern Minnesota Medical Association, Mankato, Minnesota, September 8, 1952.

# CARE OF THE AGED—BARR

TABLE I. DEATHS IN MINNESOTA BY OCCURRENCE, 1951

Cause of Death	Total	Per Cent
Total	28,145	100
Communicable Disease	1,216	4.3
Accidental Deaths	1,805	6.5
Infant Deaths	1,918	6.9
Chronic Degenerative Diseases	20,153	71.6
Other	3,053	10.8

TABLE II. SHIFT IN AGE GROUPS

	1900	1940	1950
Number Persons 65 Years and Over in Minnesota	66,771	212,618	259,309
Percentage of Total Population	3.8%	7.6%	8.7%

The increase of twenty years in our life expectancy since 1900 is due largely to the reduction in infant deaths and deaths due to communicable diseases. A review of Minnesota's 1951 vital statistics records revealed that Minnesota had the greatest number of live births in its history, 80,047, a rate of 26.5 per 1,000 of population and that only twenty-seven mothers lost their lives as a result of childbirth (a maternal death rate of .3 per 1,000 live births, the lowest rate in Minnesota's history).

Communicable diseases as a cause of death and disability are rapidly becoming relatively unimportant and, concurrently, the so-called chronic or degenerative diseases commonly associated with older age are of prime importance (Table I).

Table I shows a new low in communicable disease deaths (1,216). It is noteworthy that 84.3 per cent (1,025) of these deaths were due to pneumonia and influenza (706), tuberculosis (256) and syphilis (63), of which 75 per cent (765) occurred at age forty-five and over and 49 per cent (498) occurred at age sixty-five and over. Thus these communicable diseases have, for all practical purposes, become diseases of middle and older age. The remaining 191 deaths were due to all other communicable diseases combined and represent only .6 per cent of all deaths. It is of interest that in 1951, Minnesota's population exceeded 3,000,000 (estimate 3,018,163).

On the other hand, accidents as a cause of death and disability show only a moderate decline over the years. They are today the leading cause of death between the ages of one and thirty-five and are responsible for almost 40 per cent of deaths in children (ages one to nineteen).

TABLE III. HOSPITAL BEDS

Category	Total Beds Needed	Existing Acceptable Beds*	Per Cent of Needs Met
General	13,715	10,695	78
Mental	14,912	9,542	64
Chronic	5,963	409	7
Tuberculosis	1,040	1,855	100
Total	35,630	22,501	63%

\*Beds housed in fire-resistive quarters.

With more than 70 per cent of our deaths being due to chronic disease it appears that the answer to the problem for all of us was supplied years ago by Dr. William Osler who stated: "The way to enjoy a long and healthy life is to get yourself a chronic disease and then take care of the disease."

The progressive aging of our population is one of the factors responsible for the growing importance of the problem of chronic disease. Table II demonstrates the shift in the number of persons in the older age group in Minnesota during the last fifty years.

It is estimated that this proportion may again be doubled in another twenty-five years. Some of the problems we are faced with today with respect to the care of this group of the population include health and medical care, rehabilitation, employment, housing and living arrangements, recreation, education and welfare. A complete change in the concept of living must be developed for the person of older age if all of us are to maintain our present standard of living. The state has set up a Commission on Aging which is developing information which may aid in providing some of the answers to this problem.

The Hospital Survey and Construction (Hill-Burton) Program is aiding appreciably toward providing good hospital facilities for the state. With the \$11,897,218 made available during the first six years, 1,904 additional hospital beds, 180 beds in two nurses' homes and two public health centers have been provided in thirty-eight projects which are completed or in various stages of construction.

The figures in Table III are presented to show the need for additional hospital facilities in Minnesota. (Data based on 1952 State Plan Revision)

There are sixty-six general hospitals which are completely or partially non-fire-resistive containing 1,997 beds which are in need of replacement. These present a serious hazard to life and every



effort is being made, in co-operation with the office of the State Fire Marshal to encourage these replacements or the installation of sprinkler systems as rapidly as possible.

Many institutions, although fire-resistive in character, have much to be desired from the standpoint of good services, adequate space, and desirable functional arrangement to insure economy of operation. With the assistance of hospital, medical, nursing, architectural and related groups, regulations for hospitals are now being developed which will raise standards, thereby insuring safe and high quality care for all persons admitted.

There are 288 institutions (nursing homes, boarding care homes and homes for the aged) providing care for this older age group. Many of these are crowded and have long waiting lists. Of the total 9,088 beds, only 2,886 are housed in fire-resistive quarters. Many of these homes lack good facilities and equipment for care; personnel, particularly registered and licensed practical nurses, are in short supply for staffing. In communities where new hospitals are built, the old hospital is frequently converted to a nursing home or a home for the aged. With the addition of a sprinkler system such a facility would aid as a temporary expedient in relieving this ever-growing problem. However, all communities must realize their responsibilities for providing the modern physical facilities which will be well operated and well staffed to assure that all older people who cannot remain in their own homes are kept as healthy and independent as possible. Community groups are also responsible for fulfilling the social, religious, educational and recreational needs of these individuals. New regulations for the construction, equipment, maintenance, operation, and licensing of nursing homes and boarding care homes became effective in February, 1952. Requirements for medical attendance, nursing and other personnel, patient areas, as well as furnishings and equipment for care are outlined and attempts are now being made to classify the existing homes in the state. Educational programs to assist institutions to meet standards, institutes for nursing home operators and superintendents of homes for the aged as well as surveys of existing facilities and needs have been undertaken.

A broad educational program must be developed to teach people the value of good medical services and good hospital and related care facilities and how they can live longer, happier lives by making

use of them. Periodic physical examinations are especially indicated during middle life and continuing throughout the declining years. In this way, the incidence and severity of chronic illness can be reduced and the time postponed when greater use of these facilities becomes necessary. As a comparable example, a great deal has been accomplished in the field of maternal and child health by providing good, basic obstetrical training in our medical schools, by encouraging patients to seek the services of their physicians early during the course of pregnancy and by providing good hospital facilities in the community. Most of the deliveries (98.6 per cent) are now occurring in hospitals and practically all of the births are attended by qualified physicians. This is the reason for Minnesota's low rates in maternal and infant mortality. Many of us believe that such services have set a pattern or guide that should be carefully analyzed and followed in attacking the present-day problem of the chronic diseases. Also important is the development and expansion of diagnostic services and the recruitment and training of a sufficient number of personnel to provide preventive service, early recognition of the disabling diseases and adequate rehabilitation. This includes physicians trained in physical medicine and rehabilitation, orthopedics and related fields as well as the necessary therapists. A more adequate supply of pathologists, radiologists, and laboratory and x-ray technicians must also be provided.

With adequate rehabilitation facilities and expert personnel, much can be done for patients doomed to invalidism and dependent upon the community for support. Even a partial remedy would contribute materially in easing some of the tax load carried by the earning public. Minnesota lacks well-equipped facilities and qualified personnel to provide such services in that it has only 7 per cent of its needs met in the chronic disease hospital category.

Without question there is probably not a single physician in Minnesota who has not recognized some of these problems relative to his own community and who was not, in many instances, made real attempts to resolve some of them. The profession as a group under the guidance of the Minnesota Medical Association has, in the past, played the leading roll in the solution of the problems of communicable diseases and maternal and child health. As a result of their accomplishments they have, so to speak, actually created the prob-



lem of the care of the aged by extending the lives of the people of Minnesota to the point where, during the past year, the average age of death was sixty-three years. Today society again looks to the medical profession for leadership in resolving the ever-growing problem of protection of the health and care of the aged.

Official agencies such as the State Health Department, the Welfare Department, the Department of Institutions as well as local government and voluntary agencies can assist greatly in providing facilities, the training of personnel to operate such facilities and the education of the public in making use of facilities and services in the local community in the same way as was done in reducing maternal and infant deaths in Minnesota. In this program, government assumed in almost every instance the role which most of us believe to be its proper place.

1. It assisted in providing hospital facilities.
2. It assisted in providing training facilities and services for medical, hospital and other auxiliary personnel.
3. It provided certain laboratory services that could be most efficiently and economically performed at the State level (as, for example, the bacteriological and serological services of the State Department of Health).
4. Through its health services it assisted community educational services and programs to encourage the proper use of medical facilities and services at the community level.
5. Through its welfare department in co-operation with the medical profession it provided means for paying for medical and hospital services for the medically indigent.
6. It recorded the births and deaths.

In the last analysis, government in the maternal and child health program assisted essentially only at those levels where the individual and the local community had need and could not economically and efficiently make provision for such. It would thus appear that in the maternal and child health program, we have developed a procedure that should be used as a guide in the solution of the problem of our aging population and its associated chronic degenerative diseases.

The Minnesota Medical Association is still looking ahead in the maternal and child health field by conducting a continuous maternal mor-

tality study in Minnesota. It has taken the leadership in developing a pilot study of the neonatal deaths in Hennepin County. It instigated a study of the needs for trained laboratory personnel in doctors' offices and hospital laboratories that will result in better training of present laboratory technologists and laboratory aides. This will also increase the number of such trained persons that will be available in the future. It assisted the Minnesota Hospital Association in developing legislative provisions to improve the facilities and services of Minnesota hospitals and related institutions.

The results of these and many other similar undertakings have been so outstanding that they are being followed in many other states. For example, eleven states this year have requested information in detail about the maternal mortality study.

Minnesota's first statewide maternal mortality study was conducted in 1941-1942 (July 1, 1941-June 30, 1942). It was resumed in 1950 and is now in its third consecutive year. It is a joint undertaking of the Minnesota Medical Association and the Minnesota Department of Health which receives the co-operation of the Minnesota Hospital Association and the Department of Obstetrics of the University of Minnesota. Yet it must be emphasized that this is primarily a study carried out by the Minnesota Medical Association in an effort to reduce preventable deaths by eliminating all possible hazards of pregnancy and childbirth.

In 1941, Minnesota vital statistics records reported 54,542 live births, of which 73 per cent occurred in hospitals, 107 maternal deaths (a rate of 2 per 1,000 live births) of which 73 per cent were considered preventable by the study committee. In 1951, we had 80,047 live births of which 98.6 per cent occurred in hospitals. There were twenty-seven maternal deaths (a rate of .3 per 1,000 live births) and only 30 per cent were considered to be preventable by the study committee. The major causes of maternal deaths are still toxemia, hemorrhage, infection, heart disease and anesthetics.

These study reports are invaluable in their use for the education and guidance of physicians and hospital staffs as well as for under-graduate training.

Perhaps their value is still greater in the public

recognition that busy members of the medical profession are giving freely of their time in making such a study and in informing all members of the profession as to the results and that these same individuals are assisting the Minnesota Department of Health and Minnesota's hospitals in developing hospital facilities, services and standards in order to prevent further deaths.

A consideration of the pertinent health problems of the people of Minnesota would seem to indicate that those responsible for the administration of health services might well re-evaluate their entire program and place emphasis on those problems which are of greatest importance and where the tax dollar expended can accomplish the greatest good for the majority of the people. Certainly, the care of the chronically ill and the aged with their associated disabilities and the provision of rehabilitation services should receive first consideration.

Emphasis which was previously placed on communicable disease control, maternal and child health, environmental sanitation, et cetera, by those administering public health services should be redirected to these more pressing problems without losing sight of the fact that certain basic control measures must be maintained. For example, in the field of public health nursing this may well mean emphasis on home nursing care and the teaching of people and home makers in the care of the aged and infirm. It undoubtedly also means an expansion of these services to include the provision of advice and assistance particularly to the small nursing homes, homes for the aged and boarding care homes. In like manner, there may be considerable shifting of the emphasis of the services of other public health professions such

as public health engineering, health education, nutrition, et cetera. Such re-evaluation will undoubtedly have an impact on the basic factors which determine the size, location, areas served and staffing needs of local health departments and may result in radical changes in the present thinking relative to the basic functions of local health services.

In conclusion, the solution of our present health problems would appear to be based on the provision of good facilities in the community including general hospitals, chronic disease units of general hospitals, rehabilitation centers, nursing homes, homes for the aged and boarding care homes. The second need is that of an adequate supply of well-trained medical and related personnel to provide the preventive and treatment services for the aged and to staff these institutions. This includes not only physicians trained in physical medicine and rehabilitation, geriatrics and related fields, but also well-trained physiotherapists, occupational therapists, laboratory personnel and other allied medical groups. A third need is the development of the recognition on the part of the people as to the importance and magnitude of the problem and the need for each individual to recognize that he has a responsibility to protect himself and his family by first assisting in providing for and then making use of the facilities and services available in his community. Only by so doing can we expect to prevent, cure or at least alleviate chronic illness and its associated disabilities.

The people of Minnesota are interested and searching for guidance in the problems of the aged. We are sure that individually and collectively the medical profession will continue to supply such guidance.

#### MEDICAL CARE REGARDLESS OF ABILITY TO PAY

Attention is called to a house action which strongly supported programs offering to provide the services of a physician to anyone unable to pay for them.

The House supported the Board of Trustees plea that the AMA "heartily endorse such medical care programs."

The reference committee report, as adopted by the House, follows:

"Protests have been made at various times that medical care is being denied certain individuals because of its cost. As is well known, the prime object of the medical profession is to serve humanity, regardless of reward or financial gain, and with a view to implementation of this principle a number of county medical

societies have successfully conducted and publicized programs offering to provide the services of a physician to anyone unable to pay for them, which we believe have conclusively answered such protests.

"The Board of Trustees urges that the American Medical Association heartily endorse such medical care programs and undertake an energetic campaign to implement them, that the constituent state medical societies be encouraged to organize and vigorously promote similar campaigns embodying the principles of such programs, and that these campaigns be made known to the public through every effective medium of communication."—AMA Secretary's Letter, Jan. 12, 1953.

## THE USE OF HYDROCORTISONE ACETATE (COMPOUND F ACETATE) IN THE TREATMENT OF POSTTRAUMATIC BURSTITIS OF THE KNEE AND ELBOW

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WITHIN recent months hydrocortisone acetate, or compound F acetate (hereinafter referred to as "compound F") has been made available clinically for use as a local antiarthritic agent, and its effect in rheumatoid arthritis has been recognized. However, the beneficial effect appears to be somewhat nonspecific. This fact was observed in isolated patients in whom posttraumatic effusion in knee joints, particularly in those affected with osteoarthritis, was promptly reduced by the intra-articular injection of compound F. Hollander and co-workers<sup>1</sup> tell of their experience in the use of compound F in arthritic joints. Their series includes thirteen patients with various types of bursitis, ten of whom had acute bursitis or tendinitis of the shoulder. Three other patients treated, two with olecranon bursitis and one with prepatellar bursitis, showed marked improvement continuing for a time.

### The Present Study

We wish to report on a group of patients with posttraumatic bursitis of the knee and elbow who were treated with compound F at the Mayo Clinic during the past four months. The report is confined to these cases because they present the best opportunity for the objective and direct observation of the results of treatment as well as the judging of subjective improvement. In addition, in these patients the technique of treatment was easily carried out because of the accessibility of the involved bursae. Data on fifteen patients are presented. Four are those of olecranon bursitis, ten are those of prepatellar bursitis, and one is that of pretibial bursitis. The pertinent data on these patients are presented in Table I. Cases 4 and 6 are reported in some detail.

Read at the Annual Meeting of the Southern Minnesota Medical Association, Austin, Minnesota, September 8, 1952.

The hydrocortisone acetate used in this study was supplied by Merck & Co., Inc., Rahway, New Jersey.

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*Case 4.*—A white woman, fifty-four years old, employed as a maid in a local hotel, came to the Mayo Clinic complaining of pain, tenderness and swelling over the right kneecap of ten days' duration. She had no other complaints and the results of a recent general physical examination had been within normal limits. The patient was found to have a mildly tender, fluctuant mass anterior to the right patella (Fig. 1.) A diagnosis of

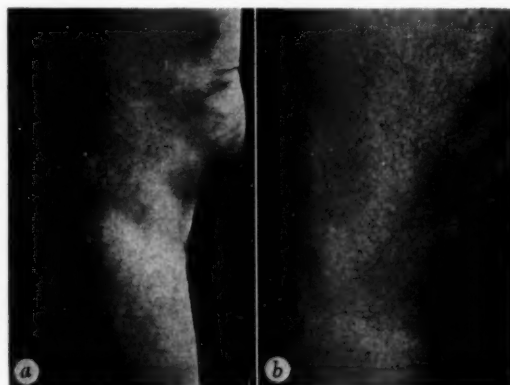


Fig. 1a and b. Prepatellar bursitis of the right knee before and seven days after injection of compound F.

prepatellar bursitis or "housemaid's knee" was made. The skin over the bursa was cleaned with soap and water, an antiseptic applied and a wheal made with 1 per cent solution of procaine hydrochloride. A 20-gauge needle was then inserted into the bursa and about 8 cc. of dark, bloody-appearing fluid aspirated into a large syringe. The needle was left in place and the aspirating syringe changed for a small syringe containing 12.5 mg. of compound F in a volume of 0.5 cc. The hormone was injected, the needle withdrawn and a dressing applied. The patient was allowed to return to work, but was asked to stay off her knees for at least a week. When she returned a week later, she stated that she had noticed complete relief from pain, tenderness and swelling in the knee within twenty-four hours after the injection. She returned to work as a hotel maid, being on her knees for several hours each day and remained symptom-free for six weeks. At the end of this time the prepatellar bursa gradually began to refill with fluid. The same procedure was then repeated, again with good results as of the date of this report.

*Case 6.*—A patient came in complaining of a painful swelling over the tip of the right elbow of four weeks'

MINNESOTA MEDICINE

## BURSITIS OF THE KNEE AND ELBOW—HENDERSON AND HENDERSON

TABLE I. COMPOUND F IN THE TREATMENT OF POSTTRAUMATIC BURSITIS OF THE KNEE AND ELBOW

Case	Age	Sex	Site of Bursitis	History of Injury	Duration of Bursitis, Days	Fluid Aspirated		Dose of Compound F, mg.	Response	
						Cc.	Color		Degree*	Duration when Last Observed, Weeks
1	64	F	Olecranon	Yes	21	10	Red	12.5	4	16
2	52	M	Prepatellar	Yes	42	4	Red	12.5	4	15
3	52	M	Olecranon	Yes	?	10	Red	25	4	13
4	54	F	Prepatellar	Yes	10	8	Brown	12.5	4 (Recurred)	6
5	43	F	Pretibial	No	10	4	Yellow, clear	12.5 (on 3 occasions)	0	None
6	53	F	Olecranon	Yes	28	7	Red	12.5	4	6
7	20	F	Prepatellar	Yes	21	0		37.5	4	5
8	52	M	Prepatellar	Yes	42	2	Red	37.5	4	4
9	35	M	Prepatellar	Yes	14	4	Red	12.5	4	4
10	34	M	Prepatellar	Yes	4	0	Red	37.5	2 (swelling)	2
11	30	M	Prepatellar	No	6	0	Red	37.5	4	2
12	52	M	Prepatellar	Yes	5	60	Red	37.5	3 (swelling)	2
13	64	M	Prepatellar	Yes	6	15	Yellow, clear	25	4	12 days
14	40	M	Prepatellar	Yes	98	0		12.5	4	12 days
15	62	M	Olecranon	No	56	0	Red	25	4	9 days

\*Rated on a basis of 0 to 4, 0 representing no response and 4 representing maximal response.

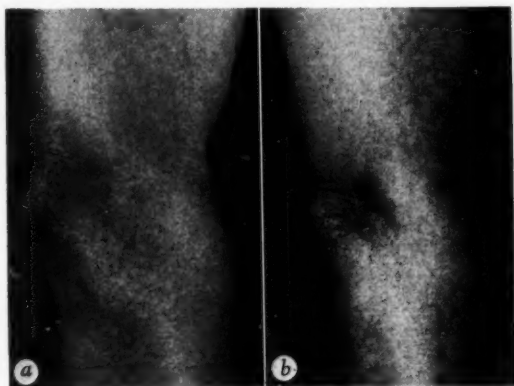


Fig. 2a and b. Olecranon bursitis of the right elbow before and nine days after injection of compound F.

duration; the swelling had followed a fall on the ice (Fig. 2). A fluctuant tumor was diagnosed as a manifestation of olecranon bursitis and the technique outlined in Case 4<sup>1</sup> was carried out as an office procedure. The bursa was evacuated of 7 cc. of brownish-red fluid, and 12.5 mg. of compound F in a volume of 0.5 cc. was injected. The patient was improved several hours later and she has remained free of pain or swelling to this date, a period of six weeks. She stated that now the elbows look alike.

The thirteen other patients were treated in a manner similar to that used in Cases 4 and 6.

Of the total series of fifteen patients, ten with prepatellar bursitis and four with olecranon bursitis experienced striking improvement within twenty-four hours and complete relief of symptoms to date with the exception of the patient in Case 4, who had a recurrence of prepatellar bursitis following continuing trauma. The remaining patient is a woman with pretibial bursitis,

the bursa overlying the tibial tubercle. There was no history of injury and the bursa contained a clear, yellow fluid. Three separate aspirations followed by injection of compound F failed to effect a cure and the bursa was then excised surgically.

In the thirteen patients in whom unequivocally good results were obtained the dose of compound F varied from 12.5 to 37.5 mg. with no detectable difference in the results. The bursitis responded just as rapidly and completely with the smaller amount as with the larger amount of compound F. Ten bursae were aspirated of their fluid and eight of these contained reddish or brownish fluid, showing the presence of fresh or old blood. Two of the bursae contained a clear, yellow fluid, the condition of one of which failed to respond to the injection of compound F. Five of the bursae were not evacuated, but from three of these enough fluid was aspirated to determine that it was reddish; the condition of all five of these bursae responded rapidly to the injection of compound F as evidenced by prompt and complete disappearance of the tumor. In all the patients in whom the bursitis responded favorably to treatment, the amount of fluid in the bursa steadily decreased in amount, some within twenty-four hours and all within a week.

#### Comment

There is evidence to support the supposition that compound F is maintained in effective concentrations within the bursal sac for at least several days. In the five patients in whom the fluid was not aspirated prior to injection of the hormone, there was a gradual decrease in the amount of fluid over a period of four or five days. In three



of the patients in whom the bursa was aspirated there was a moderate recurrence of the fluid within twenty-four hours, but this fluid gradually disappeared in the next few days.

Aspiration of the bursae and injection of compound F were done as an office procedure in several of the cases presented. The procedure can be done easily with careful attention to aseptic technique and with local anesthesia or with no anesthesia at all. This is in contrast to the trouble and expense and the not infrequent complications involved in the surgical excision of these bursae. It also has obvious advantages over the method of repeated aspirations followed by the use of pressure dressings. The latter method is frequently unsuccessful in spite of persistence of the treatment.

It would seem desirable to limit the use of compound F to those cases of bursitis in which either a history of injury or the presence of blood-stained fluid in the bursa indicates that the condition is of traumatic origin. If frank pus is obtained on aspiration or if true infectious bursitis is present, compound F is probably best withheld. Redness around the bursa may mean only inflammation and not necessarily infection.

A dose of 12.5 mg. of compound F seems to be adequate in all cases, although a large un aspirated bursa could conceivably require twice or three times this dose to produce the desired effect.

Compound F in the dose used seems to have no systemic effects and there have been no complications of this treatment to date.

### Summary

Fifteen patients with posttraumatic (noninfectious) bursitis of the knee and elbow have been treated with a local injection of compound F in the past four months at the Mayo Clinic. One patient did not experience a beneficial effect and another had a recurrence of symptoms. The remaining thirteen demonstrated striking and lasting improvement. In the latter group the inflammation and tenderness subsided in twenty-four hours and the effusion disappeared and has not returned.

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## FRIEDLANDER'S PNEUMONIA

(Continued from Page 136)

### Summary

While of infrequent occurrence, Friedlander's pneumonia is nevertheless an important and serious disease. It has a high mortality rate, a high incidence of complications, and requires specific therapy. It is considered of paramount importance to emphasize, therefore, the necessity for a careful differential diagnosis in acute pulmonary infections.

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## SENILE NODULAR THYROPATHY

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THE FAMILIAR signs and symptoms of frank hyperthyroidism are frequently absent in the elderly patient with a toxic nodular goiter. The terms "masked hyperthyroidism, goiter heart and thyrocardiacs" have been used to designate the group of patients with toxic nodular goiters in whom the classical clinical picture of hyperthyroidism is replaced by cardiovascular symptoms such as: dyspnea, weakness, weight loss, congestive heart failure, auricular fibrillation and/or palpitation.<sup>1,2,5,6,7,16,18,22,23</sup> It is in this group that the underlying remediable cause is frequently either undiagnosed with resultant death or diagnosed too late so that the cardiovascular damage is irreversible.

The purpose of this paper is to review (1) ten instances of cardiovascular deaths with necropsy from 1937 through 1951 resulting from undiagnosed nodular goiter; and (2) review histories of thirty-one patients with nodular goiter discovered out of 227 thyroidectomies, during this same period, in people over fifty years of age in whom the outstanding clinical symptoms were of a cardiovascular nature. These groups will be designated as I and II, respectively. None of the patients exhibited hypertension, coronary and/or organic heart disease.

### Symptoms

The sex ratio was two to one in favor of females in one reported series of twelve cases.<sup>7</sup> In our combined group of forty-one cases, the ratio of females to males was 4.5 to 1. The average age was 62.8 years in two series reported elsewhere totaling thirty-four cases<sup>7,18</sup> as compared to 63.9 years in our series. In the same two series the symptoms of weight loss, dyspnea, congestive heart failure and auricular fibrillation, occurred in that order of frequency. In our group (Table I), the outstanding signs and symptoms were auricular fibrillation in 77.2 per cent; dyspnea 65.7 per cent; palpitation 51.2 per cent; pedal edema 42.8

TABLE I. SYMPTOMS\*

Symptom	Number	Percentage
Auricular fibrillation	27	77.2
Dyspnea	23	65.7
Palpitation	18	51.2
Pedal edema	15	42.8
Weight loss	14	40.0
Weakness	12	34.2
Cough	10	28.5
Albuminuria**	9	25.7
Palpable liver	9	25.7

\*Six patients in Group II had insufficient data.

\*\*Two plus or more.

per cent; weight loss 40 per cent; weakness 34.2 per cent; cough 28.5 per cent; albuminuria and palpable liver in 25.7 per cent each. The duration of symptoms varied from four to forty-two years in one series of twenty-two surgical cases.<sup>18</sup> In our Group I, the duration of symptoms ranged from two months to fifteen years with an average of 3.5 years as compared to six months to twelve years with an average of 1.4 years in Group II.

### Pathology

The almost uniform absence of hyperplasia and lack of knowledge regarding the biochemical nature of the secretion, makes it impossible to postulate as to the pathogenesis of the thyrotoxicosis.<sup>9,21</sup> The gland is usually enlarged but may be small. In our series of thirty-five cases, the thyroid was palpable in twenty-seven or 77.2 per cent. In Group I, the weight of the gland ranged from 72 to 210 gm. with an average weight of 131.7. The heart weights ranged from 310 to 440 gm. with an average of 358 gm. There was no correlation between gland size and heart weight. In Group II, subtotal thyroidectomies, the weight of the gland ranged from 10 to 157 gm. with an average of 75.1 gm.

The variation in the size of the acini with cystic acinar, colloid and epithelial degeneration, absence of hyperplasia and interstitial fibrosis are the outstanding histopathologic features.<sup>9,18,19,21</sup> The presence of an occasional area of hyperplasia in a predominate picture of degeneration may signify either recent stimulation or previous hyperactivity.<sup>21</sup> The constant finding of poorly staining colloid which assumes a basophilic character is be-

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FEBRUARY, 1953

# SENILE NODULAR THYROPATHY—JOFFE

TABLE II. CAUSE OF DEATH

Mode	Number	Percentage
Congestive Heart Failure	5	20
Embolic		
Femoral	2	20
Axillary	1	10
Cerebral	1	10
Pulmonary	1	10

lieved to be an altered secretion of a degenerative process and the basis for the thyrotoxicosis.<sup>9,21</sup>

A histologic review of our series revealed no single diagnostic criterion. The variation in the acini with cystic degeneration, flattening of the epithelium, absence of hyperplasia, poor staining colloid with basophilic tendency and interstitial fibrosis was a constant finding but is not pathognomonic of this definite clinical entity.

The mode of death in our series (Table II) was either pure congestive heart failure or an embolic episode.

## Diagnosis

The willingness to accept the more common explanation for the cardiac disability, such as arteriosclerotic heart disease and/or coronary insufficiency, not only decreases the diagnostic acumen but limits the therapeutic possibilities for a remediable condition.<sup>2</sup>

Thyrotoxicosis should be suspected in all elderly patients with auricular fibrillation who fail to respond to the accepted form of therapy.<sup>2,3,6,8,14,18,22,24,25,29</sup> In a combined series of 805 cases of nodular goiter, auricular fibrillation occurred in 14 per cent of the cases.<sup>8,25,29</sup> A review of 2,958 cases of auricular fibrillation in the literature<sup>14</sup> revealed the presence of thyroid disease in about 9 per cent. This inefficient type of rhythm is present in 85 per cent of all cases of congestive heart failure associated with hyperthyroidism and is the major factor in the production of congestive heart failure in thyroid disease.<sup>22</sup>

The absence of the classical symptoms of hyperthyroidism is a characteristic feature. The fallacy that an increased basal metabolic rate is an essential diagnostic criterion adds to the pitfalls of an inaccurate diagnosis. The basal metabolic rate is often normal or only slightly elevated. In a series<sup>18</sup> of twenty-two toxic nodular goiters, the basal metabolic rate varied from a minus twelve to a plus forty-two with an average of plus twenty-eight. In a group of seventy nodular and

TABLE III. BASAL METABOLIC RATE\*

B.M.R.	Number	Percentage
-15	1	3.6
+5 to 10	2	7.2
+11 to 20	9	32.1
+21 to 30	8	28.5
+31 to 40	4	14.0
+41 to 50	2	7.2
over 50	2	7.2

\*Not available in three patients.

thirty diffuse goiters with clinical evidence of thyrotoxicosis, the basal metabolic rate ranged from a minus five to a plus nineteen in 78 per cent of the cases.<sup>9</sup> In our Group II (Table III), the range was from minus fifteen to a plus seventy-nine with an average of plus 26.9.

A decreased circulation time, which is affected by anemia, fever, B avitaminosis and congestive heart failure, may be suggestive of hyperthyroidism but is not diagnostic. A therapeutic trial with Lugol's has the disadvantage of a lengthy period of observation and delays the use of radioactive iodine.<sup>8</sup>

The plasma-protein-bound iodine is an accurate determination and a value greater than 8  $\mu$ g. per cent is diagnostic. A simpler test is the determination of radioactive iodine uptake. In the presence of an adequate twenty-four hour urinary output, an excretion of less than 20 per cent is considered diagnostic of hyperthyroidism.<sup>6</sup> Since the accuracy of this test depends on completeness of urine collection and kidney function, a low excretion should be confirmed by the plasma-protein-bound iodine.

## Treatment

The end result of all untreated toxic goiters is death from heart failure.<sup>19</sup> To wait until the cardiovascular injury is irreversible is wishful procrastination. Non-thyrotoxic congestive heart failure and angina pectoris have responded fairly well to total thyroidectomy.<sup>4,10,11,12,15,22,26,27</sup> In a followup series of 208 postoperative thyrocardiacs with auricular fibrillation and/or congestive heart failure,<sup>22</sup> normal rhythm was restored in 71.5 per cent; 27 per cent continued to fibrillate and 1.4 per cent were completely incapacitated because of heart failure. The success of subtotal thyroidectomy in nodular goiter with cardiovascular symptoms depends on the early recognition of the disorder before irreversible cardiac damage occurs.

### Summary

1. Ten instances of cardiovascular deaths from unrecognized nodular goiter are reported.
2. The outstanding symptoms in order of frequency in the combined group of forty-one patients with nodular goiter were: auricular fibrillation, dyspnea, palpitation, pedal edema, weight loss, weakness and cough.
3. The variation in the acini with cystic degeneration, flattening of the epithelium, absence of hyperplasia, poor staining colloid with basophilic tendency and interstitial fibrosis were constant histopathologic findings.
4. The mode of death in Group I was equally divided between congestive heart failure and an embolic episode.
5. The basal metabolic rate ranged from a minus fifteen to a plus thirty in twenty or 71.4 per cent of the patients and is not a reliable diagnostic procedure.
6. The early recognition of this definite clinical entity would prevent irreversible cardiac damage and death from a missed diagnosed cardiovascular disease.

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### KEEP PLUGGING "YOUR DOCTOR" FILM

Local medical societies can improve their "public relations rating" in the community by booking the "Your Doctor" film for non-theatrical showings at society meetings or to PTAs, schools, churches and other groups interested in health. Sixteen millimeter prints of this fifteen-minute sound film now are available on loan from Modern Talking Picture Service, Inc., 45 Rocke-

feller Plaza, New York 20, N. Y. Produced as a documentary, this film points up ways in which the medical profession has helped to bring better medical care to everyone. During 1952 more than 12 million Americans viewed the movie in over 5,000 commercial theaters throughout the country. It is hoped that medical societies will continue to promote the film locally.

## PHYSICAL SYMPTOMS OF DEPRESSION

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**A** DEPRESSION is a serious disease. It inflicts far more pain and discomfort than do most organic diseases or injuries. A depressed patient, like a leper, may suffer years of anguish and misery, avoiding family and friends, seeking refuge behind bars and finding peace only in death. Patient after patient has said, "I would rather suffer any other kind of illness than go on this way." The disease occurs at any age of adult life; the symptoms may last from weeks to years; repeated episodes are common and the outcome may be fatal in the form of suicide.

Are the above statements overly emphasized and dramatic? I think not, especially after seeing and treating a large number of these patients. One hundred case histories of patients whose illnesses were predominately that of depression were reviewed for this presentation. The patients were seen in Mankato over a period of the last two years. They come from the farms and small towns of southern Minnesota and northern Iowa. There were thirty-five males and sixty-five females. The age range was from eighteen to seventy-two years. Seventy-eight of the one hundred patients were between the ages of thirty and sixty. The duration of symptoms before referral ranged from one week to twenty years. There were twenty-three patients whose illnesses had been present one month or less and forty-six patients with symptoms three months or less. Twenty-seven patients had been sick for a year or more.

The incidence of previous depressions was high. Almost half the group, forty-six patients, had had one or more episodes before; nine of these had two previous episodes and seven of the group had three or more previous attacks of depression. It is interesting to note that nineteen of the twenty-three patients whose symptoms had been present a month or less had experienced previous episodes of depression. The fact that they had had a similar illness before perhaps led to their more prompt willingness to have psychiatric care. There were two suicides in the group, both males, aged fifty-two and seventy-two.

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Before discussing the symptoms of depression it might be in order to define the disease. Three forms of depression are commonly recognized: the depressed phase of a manic-depressive psychosis, the involutional depression, and the depression with psychoneurosis, sometimes called neurotic or reactive depression. The first two are regarded as psychoses and as such are presumably more malignant and demanding of more heroic treatment. The neurotic depressions by implication are milder, non-psychotic, and responsive to psychotherapy. In many cases, however, it is difficult to draw a line between psychosis and neurosis, and we see many cases of neurotic depression that are far more severe than are some cases of psychotic depression. Suicide may occur in all groups. Response to electric shock and other therapy seems to depend on many factors, but not on whether the depression is a neurotic or psychotic variety. It is therefore becoming increasingly evident that the above diagnostic categories are artificial, and that the management of a depressive type of illness depends not upon some specific diagnosis but upon the circumstances and dynamics of each individual case.<sup>1</sup> If we do not use the above categories to define depression what criteria shall be used? One of the best definitions is, "the mental state of a person who is unhappy and who is ill with his unhappiness."<sup>2</sup> The key point of this definition is that the person is ill. It is this fact that brings the patient to the doctor for help. And it is the recognition of the symptoms of this illness that is the concern of this paper.

In reviewing the symptoms of the one hundred patients in this study it became apparent that the cases could be separated into three general groups. In one group the symptoms were chiefly emotional and mental, and physical symptoms of ill health were minimal. Forty-five of the one hundred cases were in this group. In a second group of patients the emotional and mental symptoms were equally prominent, but in addition there were many physical complaints. Thirty-four cases were in this category. In a final group the physical symptoms were prominent and there were few overt depressive symptoms. Twenty-one patients showed this picture.



*Patients with predominately depressive symptoms and few physical symptoms.*—There are many symptoms of depression which are obvious to everyone. The patient complains of being depressed, melancholy or blue. Crying spells are frequently present. The future appears hopeless. The patient feels worthless and "better off dead." He complains of loss of appetite and of an inability to sleep. His work is done with difficulty or not at all. He may be nervous and agitated. Guilt feelings, religious ruminations, paranoid feelings and irrational worries are frequent. The patient is usually afraid to be left alone, yet he will not leave the house. He may develop fears of harming himself or his family. Phobias and obsessions may occur. Often these patients will have few or no physical complaints except for the difficulty in sleeping and eating and an inability to work. The depressive elements of the illness overshadow minor physical symptoms. The patient often recognizes the functional nature of his illness and will say he is in good physical health. Of the one hundred cases studied, forty-five were in this group.

*Case 1.*—A single man, aged forty-seven, stated, "I have a bad case of melancholia." His present illness began nine months previously when he was given a new job involving more responsibility. He became depressed and quit. He cried at times. "Some days I just live on will power." He said he never felt better with respect to his physical health. He had had three prior depressions at the ages of fifteen, eighteen and twenty-three. The last one occurred at the time his mother died, and lasted three years. The patient was treated with intensive psychotherapy for a month. After an initial response he regressed and was hospitalized. After four electric shock treatments he recovered completely, and shortly thereafter returned to his new job.

*Case 2.*—A young married woman, aged twenty-three, with four children, complained, "I am afraid of something." Her illness began suddenly one month previously when she thought, "you are going to die young." After that she was afraid to be alone, cried frequently, became depressed, worried about sharp objects about the house and almost struck one of the children with a knife. She had no complaints about her health, though she did have several anxiety attacks at night. She had considerable difficulty in sleeping. Her past health had been good and there was no prior history of neurosis. She was seen in the office on a number of occasions and her symptoms disappeared with psychotherapy.

*Case 3.*—A married woman, aged fifty-six, no children, became depressed about a year previously. She developed a phobia about grease and washed dishes constantly. She had many guilt feelings over alleged sins.

She cried frequently, she had occasional headaches and she complained of being tired, nervous and unable to use her mind. Her past health was good. Her menses had ceased about four years previously. After a series of electric shock treatments her phobias and depression disappeared. She has been well for over two years.

*Patients with depressive symptoms and many physical symptoms.*—Although we usually think of depression as an emotional and psychological illness, we know that such an illness occurs within the framework of our body. Psychosomatic medicine has taught us that all parts of this body are very sensitive to mental maladjustment. This is particularly true when the maladjustment is an emotional one. It is natural to expect then that a depressed patient will have many physical symptoms.<sup>2</sup> These physical symptoms can involve any organ and tissue of the body. In the present series disturbances of autonomic nerve function were most frequent, but voluntary nervous reactions were retarded as well. Pain was a most common complaint. It was localized anywhere. The patient frequently complained of pain and tight feelings in the head and back of the neck. The pain was sometimes in the eyes or ears, in the mouth, in the chest and abdomen. Often the pain was in the joints or in the muscles. Some patients said, "I have pains all over." The pains were intense or mild. They were steady or intermittent. They remained in one place or they changed locations. They were not imaginary. The patients suffered from them and were very grateful when they were relieved. Cranial nerve symptoms were frequent. They included many complaints regarding vision. Some patients had had repeated changes of glasses. Complaints of diplopia, dizzy spells, tinnitus and hearing loss were noted. A lump in the throat or a complaint of a difficulty in swallowing was frequently present.

Several patients complained of a tight feeling in the chest, of pain in the precordium or other parts of the chest, of palpitation, dyspnea, rapid heart action and inability to breathe. These complaints often occurred as spells indistinguishable from anxiety attacks. We must remember that the depressed patient is an anxious patient, and many of his symptoms resemble those of an anxiety neurosis. Gastro-intestinal complaints were perhaps the most common of the physical symptoms seen in the present series of patients. Stomach pain, indigestion, an empty feeling in the epigastrium, constipation and diarrhea were frequent.

## PHYSICAL SYMPTOMS OF DEPRESSION—CHALGREN

Some patients related these symptoms to their depression while others felt that they were suffering from some particular disease. Genito-urinary complaints included frequency and burning of urination, changes in the menstrual cycle, vaginal discharge, pain in the pelvic region and impotence. Many patients had general symptoms of fatigue and weakness. In two cases the complaint of hot and cold spells was prominent. Two cases of generalized dermatitis were associated with depression. Frequently the presence of these physical complaints plus the anxiety plus the depression caused many patients to interpret these symptoms as evidence that they had some incurable disease or that they were going to die. A particular symptom that has appeared in many of these patients is a sense of tightness, heaviness or constriction which is localized in the mid-line of the body anywhere from the throat to the epigastrium. It is a symptom which is very distressing to the patient. In several patients it has served as an accurate barometer of their illness, remaining as long as the patient showed any signs of depression.

The physical symptoms as listed above were prominent in fifty-five of the 100 patients studied. In thirty-four of the patients the psychological symptoms of depression were also prominent, and it was obvious in talking with the patient that the main problem was one of depression.

*Case 4.*—A young married woman aged twenty-six, with two children, stated, "I'm depressed all the time." Her present illness began two months previously. She made a suicidal attempt after an argument with her husband. She herself felt she had been depressed for over two years. She had severe joint pains and worried that she would be deformed with arthritis. She had many headaches. Past history revealed that she had had several prior episodes of feeling depressed. Several family members had been depressed, and there had been three suicides in the family. A diagnosis of psychoneurosis was made elsewhere and she was sent to me for psychotherapy. She failed to respond to such a program, but her symptoms disappeared after a series of electric shock treatments.

*Case 5.*—A man, aged sixty-four, complained of chronic "stomach pain" since a partial bowel resection twenty-eight years previously. In the last six months the distress became worse, and six weeks before referral an ulcer was diagnosed. The patient then became increasingly agitated to the point where he could not eat or sleep or do any work, make decisions, et cetera. He cried frequently. History brought out that he had retired from his farm nine months before and that he had become more and more restless since. He recovered completely

after a series of shock treatments, had no physical complaints, and resumed work on the farm.

*Case 6.*—A woman, aged forty-eight, complained of nervousness ("I can't even sit still"), palpitation, a funny feeling in her head, eyes and neck, insomnia, fifteen-pound weight loss and depressed spirits. These symptoms came on suddenly two months before, for no apparent reason. The patient had a similar but more severe episode nine years before, relieved by Metrazol treatments. A mild recurrence developed four years ago. After a short program of office therapy her spirits improved, her symptoms disappeared and she felt she had recovered.

*Patients with predominately physical symptoms and few depressive symptoms.*—In twenty-one of the one hundred cases the physical symptoms of the patients' illness were emphasized and underlying depressive features were masked by the patient's complaints and his concern about them. There are many cases of mild depression in which the basic nature of the disease is concealed by the accompanying physical symptoms. Many of these patients recover either spontaneously or after the reassurance of a physical examination and of some treatment to the major physical symptoms. In some cases the treatment of the physical symptoms alters the patient's environment which in turn results in an improvement of the depression. Some of these patients are cured by faith-healers, chiropractors, changes within the family, et cetera. In some patients the depression continues and more definitive therapy becomes necessary.

*Case 7.*—A man, aged twenty-seven, stated his complaints as "numerous." Six months previously he developed a weakness in his legs. Later he developed pain which moved from his back to his shoulders, to his knees, et cetera. He complained of difficulty in swallowing and talking. He felt he had a clumsiness of the fingers. He had photophobia, tinnitus, dizzy spells, poor memory and a fear that he was suffering from an incurable disease. He had been referred because of possible multiple sclerosis. He admitted that he was depressed and said he had been so for about two years. He had a number of guilt feelings about his Army experiences since most of his time in the Service was spent as a student. His past health had been reasonably good except for possible pericardial effusion at the age of seven. The patient was seen over a relatively long period of time and given psychotherapy. His physical symptoms disappeared but he remained depressed. He was finally hospitalized and was given six electric shock treatments. He made a remarkable recovery and felt completely well.

*Case 8.*—A married woman, aged fifty-two, with no children, stated, "This is the fourth time I have had

this nervous trouble." Her present episode started five months previously with a "kidney infection." She also had pains in her stomach, backache, headaches, and a funny feeling in her throat. She was referred to me by a laryngologist whom she had seen several times for her throat difficulty. Twenty-three years previously she developed abdominal pain. She went to several doctors and finally had an exploratory operation. Following this she was nervous for nine months. She was very restless, she cried, and she lost interest in everything. She finally recovered and went back to work. Ten years later she developed pain in her flanks after her husband had been called out of town. Again she became quite nervous and depressed. This illness lasted several months. Two years ago she suddenly developed pain in her chest. She was quite nervous and agitated. This illness lasted about five months. During her present illness she lost interest in everything. She felt quite depressed, she had difficulty in eating and sleeping and she went to several doctors for help. She was treated by me in the office with only moderate success. She was finally hospitalized and given electric shock treatments with considerable improvement. She had more energy and many of her complaints disappeared. She still worried about some disease in her throat.

*Case 9.*—A man, aged fifty-four, complained of pain in the head and neck, of an upset stomach, abdominal pain, soreness and burning of the mouth, pains in the chest, dizzy spells, sensitivity to noise and inability to work. These complaints developed about eighteen months previously. During much of that time he doctored for his stomach complaints. His illness was accompanied by some depression. He admitted that he cried frequently and that he felt blue much of the time. His past health had been good. Three years previously he had suffered from a ruptured intervertebral disc which was cured with conservative management. The patient was seen in the office on a number of occasions. Certain changes were made in his work and he gradually responded to a program of reassurance and psychotherapy. As his spirits changed his symptoms disappeared.

*Discussion.*—One ordinarily thinks of a patient suffering from a depression as a patient who is melancholy, who is retarded in his thinking and actions, who often has feelings of guilt and of unworthiness and who talks of suicide. It is not emphasized that the above feelings are usually accompanied by many physical complaints, yet it is usually the physical complaints that bring the patient to the doctor. In over one-half of the one hundred cases studied there were various specific physical symptoms, and in one-fifth of the cases the physical symptoms masked the underlying depression. Several of the patients in this study were referred because of a specific physical complaint although, of course, the referring physician recognized the functional origin. In case seven for

example the patient was referred to rule out multiple sclerosis. Two patients were referred because of impotence. Another patient was referred because he had lost the use of his left hand. Several of these patients had had operations during the course of their depressive illnesses. This is not unusual since patients with depressions may seek surgery in an effort to alleviate their discomfort. Many of the physical symptoms were of a neurotic or hypochondriacal nature, reflecting anxiety. We must remember that anxiety itself is a symptom of depression. In other cases the basic depression is accompanied by a general slowing of bodily function, especially that controlled by the autonomic nervous system. The patient naturally relates his illness to his physical symptoms, thus diverting his own and his physician's attention from the real condition. When the physician's history and examination indicate that the patient's complaints are functional in origin, he should make inquiry as to the possible presence of an underlying depression. Symptoms of a mood disorder will often be revealed with specific questioning. In some cases it will be difficult to decide whether the picture is one of a depression with neurotic features or of a neurosis with some depressive features. In general a depression occurs as a specific event with a definite onset and a definite change in personality, while a neurosis is more apt to be of indefinite origin and duration, and with no dramatic change from health to illness. It is important that the distinction be made, since, in case the illness is one of depression, it may be possible to effect a dramatic improvement with shock therapy.

*Summary.*—A depression is a malignant disease. Few diseases cause more suffering. Many cases are accompanied by a variety of physical symptoms. In some cases the physical complaints may mask the underlying depression. This may occur in either the psychotic or neurotic depression. Since shock therapy may achieve remarkable results in this disease, it is important to recognize its many features.

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## HERPES ZOSTER WITH MOTOR PARALYSIS

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**H**ERPES Zoster with motor involvement is sufficiently well annotated to need no more than passing comment. It may involve the cranial nerves, as in the well known Ramsey-Hunt syndrome (geniculate herpes), or the muscles of the trunk or extremities. Involvement of the abdominal wall was recorded by Taylor (1895) and recently there has been a discussion of such a case by De Dominicis (1951). Three examples of paralysis of the abdominal wall are recorded in the present report; in one the surgeon discerned the nature of the lesion and an operation was avoided, in another the protruding musculature was thought to be an abscess and aspiration was attempted.

*Case 1.*—S. B., a housewife, aged seventy-two years, was admitted to Fulham Hospital, London, in December 1946 on the recommendation of her local physician, who thought she might have intestinal obstruction. Five days prior to admission she had developed left sided abdominal pain which had persisted and was accompanied by vomiting. The bowels had not moved for three days until relieved by an enema just before admission to the hospital. She was a well-nourished patient who exhibited an extensive herpes zoster on the left side involving the tenth, eleventh, and twelfth thoracic segments. There was a marked resonant bulge in the lower left abdomen and paralysis of the musculature of the left side of the lower abdominal wall. The bulge was greatly accentuated by coughing. A recent photograph (Fig. 1) shows that the paralysis persists.

*Case 2* (U. H. No. 824429).—J. N. K., a man aged sixty-five years, was admitted to University Hospitals, Minneapolis, in December 1950 with a diagnosis of hypertensive cardiovascular disease, coronary insufficiency and heart failure. One month prior to admission he had suffered a herpes zoster involving the lower thoracic nerves on the right. On examination in the hospital, paralysis of the lower part of the abdominal wall on the right side was observed.

*Case 3* (U. H. No. 837761).—I. L. was a housewife, aged seventy-four years. This patient was referred to the Out-Patient Clinic of the University Hospitals, Minneapolis, in October 1951 for diagnosis of a mass in the right upper quadrant. She had had her gallbladder removed in 1915. Seven months prior to admission to the clinic she had developed herpes zoster in the region of the seventh thoracic segment on the right. Following this, a severe grinding pain developed in the right upper

quadrant and an exploratory laparotomy was done a month later. The only abnormality found was a dilated common bile duct for which T-tube drainage was instituted and continued for two months. After operation a swelling of the right upper quadrant was noted



Fig. 1

and needled in the belief that it was an abscess. She was a well-nourished anxious woman. There was a bulging of the musculature of the upper part of the abdominal wall on the right, a bulging in no way related to operative scars. This was accentuated by straining. The scarring from the herpes was present and there was marked hyperesthesia of the involved skin.

The failure to diagnose *case 3* is understandable if the relationship between the onset of the rash and motor paralysis is not duly appreciated. In 25 per cent motor involvement may precede the eruption; in the remainder the interval between the rash and muscular paralysis may vary from a day to as much as two months (Taterka and O'Sullivan 1943). As far as the abdominal muscles are concerned paralysis is usually permanent.

### Summary

Three cases of herpes zoster are reported with involvement of the anterior horn cells and in which the abdominal muscles were paralyzed. In all three the paralysis was permanent. The time relationship between the onset of the rash and that of motor involvement is briefly discussed.

(Continued on Page 160)

MINNESOTA MEDICINE



# Case Report

## PERFORATED INTERVENTRICULAR SEPTUM

### Report of Case

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THE patient was a sixty-seven-year-old white male. On the morning of April 28, 1952, he experienced a sudden, severe substernal pain while sweeping his attic floor. He became extremely weak, began to perspire profusely and walked downstairs to his room to lie down. Whiskey and aspirin failed to give relief. The pain persisted until he experienced a sense of tightness and constriction to the point of anxiety and fear. The pain radiated down the arm to the right elbow and around the chest. The patient was immediately sent by ambulance to the hospital. After reaching the hospital, the patient had a small emesis and felt somewhat improved. The narcotic given only dulled the severe precordial pain which radiated along both arms accompanied by a sense of suffocation and breathlessness. His whole body was drenched with perspiration and he was immediately placed on the critical list.

There was no past history of hypertension. A minimal anginal syndrome had been present on effort and he had experienced slight cramps in his legs on walking rapidly. The patient's initial examination revealed him to be in shock and perspiring profusely. He was pale and slightly cyanotic while in oxygen. The pulse rate was forty-eight per minute, strong but irregular with no definite pattern. The electrocardiogram pulse was sixty per minute. The pupils were regular and equal. No thrills were noted on palpitation of the precordium. Heart sounds were of fairly good quality. The aortic second sound was louder than the pulmonary second. The blood pressure was 154/80 mm. Hg. The remainder of the physical examination proved to be essentially negative.

At approximately 5 p.m., auscultation revealed a loud systolic murmur to the left of the sternum. The pulse became more rapid and of poorer quality. The blood pressure tones heard below the cuff revealed unequal impulses and the pressure

began to drop rapidly. The temperature began to rise somewhat from shock levels. There were two emeses of clear liquid. No such systolic murmur had been noted on admission.

The patient was given dicumerol, and prothrombin times were kept at a level of 25 to 35 per cent, except on May 7, when his prothrombin time suddenly dropped to 10 per cent and then rose to 23 per cent on the following day prior to death.

*Clinical Course.*—At no time during his hospital residence of eleven days did the patient satisfactorily improve his condition of shock. The blood pressure leveled out to approximately 100/50 mm. Hg. for five days prior to death. The pulse ranged between eighty and 100 and was of poor quality. His pain gradually subsided, and no narcotic was necessary after the fifth day in the hospital. About this time the patient began to expectorate thin bloody sputum. No other physical evidence of pulmonary disease was noted; the patient's respiratory rate was twenty, easy and not labored. The loud systolic murmur to the left of the sternum persisted and carried over into the early diastolic phase. A slight icteric tinge to the sclerae was noted on the seventh day after admission.

On the eleventh day in the hospital the patient suddenly became dyspneic and expired.

*Laboratory Admission Work.*—Blood: hemoglobin 109 per cent; red blood count, 5,020,000; white blood count, 16,750; neutrophils, 81 per cent; eosinophils, 1 per cent; basophils, 1 per cent; lymphocytes, 16; monocytes, 1 per cent.

Urine: amber, specific gravity, 1025; acid; faint trace of albumin; no sugar, and 4-5 red blood cells to field.

On May 8 the sedimentation rate, one day before death, was 50 mm. in one hour. An electrocardiogram taken on April 28, revealed myo-

## CASE REPORT

cardial infarction of the anterior coronary thrombosis type.

**Discussion.**—Loud systolic murmurs occurring after coronary thrombosis may indicate rupture of a papillary muscle, ventricular aneurysm, or a perforated interventricular septum.

Perforated interventricular septum is usually characterized by a precordial systolic thrill and a loud murmur following an acute thrombosis. Location of the thrill and murmur is usually in the fourth or fifth interspace to the left of the sternum. The murmurs may be harsh and widely transmitted. This remains prominent despite weakening of other cardiac sounds. With a larger septal defect, a diastolic murmur is also heard, but this may also be evidence of a ventricular aneurysm. In rupture of an infarcted papillary muscle the thrill is usually absent, whereas the thrill is present in over 50 per cent of ruptured interventricular septa. In the former condition a murmur is usually heard at the apex and not along the left border of the septum. Occasionally circulatory collapse may eliminate the anticipated physical signs. The electrocardiogram is of importance in the diagnosis of coronary thrombosis, but of little value in the diagnosis of a perforated interventricular septum as the location is usually low in the septum.

Edmonson and Hoxie<sup>1</sup> in reporting thirteen cases, stated that they believe rupture of the heart is most likely to occur in those patients with persistent hypertension after infarction. Perforation almost always occurs within seven days of the onset of the coronary thrombosis. Few patients live longer than a month after perforation. One of thirty-six patients reported by Wood and Livezy<sup>2</sup> survived almost five years.

Seventy-seven cases of perforation of an infarcted interventricular septum have been reported; in twenty-nine, the diagnosis was made before death. This is probably the thirtieth case in which a diagnosis before death was made, and the seventy-eighth since the report by Zucker et al.<sup>3</sup>

Other pertinent autopsy data noted by Dr. H. Sanford, Pathologist of Asbury Hospital, Minneapolis, are as follows:



Fig. 1. (a) Perforation of interventricular septum—see forceps extending through perforation, and (b) aneurysm of ventricle (see arrow).

Thrombosis, anterior descending branch, left coronary artery.

Infarction, anterior wall, left ventricle.

Generalized arteriosclerosis: Coronary arteries, moderately severe; aorta, moderately severe; kidneys, moderate.

Atelectasis.

Chronic passive congestion, liver, spleen, kidneys, lungs.

Pericardial adhesion, anterior.

This case is interesting, not only in that an ante mortem diagnosis of perforated interventricular septum was made, but also for the presence of an aneurysm of the ventricle resulting from an anterior coronary thrombosis.

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# Laboratory Aids to Medical Practice

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## SULFOBROMOPHTHALEIN TEST OF LIVER FUNCTION

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THE sulfobromophthalein test of hepatic function needs no defense; it has been reported to be positive in miscellaneous hepatic diseases, particularly cirrhosis, in more than 90 per cent of cases. Also, retention of dye occurs surprisingly often in malignant disease of the liver.

Derivatives of phenolphthalein are cleared from the blood to some extent by way of the kidneys. The addition of a halogen to the molecule reduces renal excretion; the dye is then removed from the blood by the liver and is released into the duodenum through the biliary tract. The first dye used to study the function of the liver, phenoltetrachlorophthalein, leaves the blood stream slowly; in order to measure its biliary excretion stools were collected for forty-eight hours and assayed for the dye.

In 1924, Rosenthal and White found that sulfonating the halogenated phthaleins increased the rate of their disappearance from the blood; the compounds with bromine or chlorine disappeared faster than the derivatives of iodine. In animals the chlorinated dye appeared in the urine. Therefore, they chose the brominated derivative; their work led to the wide acceptance of phenoltetrabromophthalein sodium sulfonate, often called sulfobromophthalein (bromsulphalein).\*

The original technique consisted of the intravenous injection of 2 mg. of sulfobromophthalein

per kilogram of body weight. Thirty minutes later a sample of venous blood was withdrawn and allowed to clot; the serum was alkalinized and the presence of a reddish-purple color indicated retention of dye in the blood. The concentration of dye was determined by visual comparison with a series of standard colors. Absence of dye in the serum signified satisfactory hepatic function.

This method obviously is valid only if the clearance of dye is a function of the liver alone. Two observations support this contention: (1) in cases of biliary fistula 90 per cent of injected sulfobromophthalein appears in the externally draining bile within an hour and (2) in animals whose livers have been extirpated, disappearance of intravenously administered dye from the blood is extremely slow. The dog, unlike man, loses some of the brominated dye through the kidneys.

If the principle of the dye test is accepted as valid, the problem of dosage arises. This in turn depends on the speed with which sulfobromophthalein is cleared from the blood. It has been found that 2 mg. of dye per kilogram of body weight is cleared completely by normal persons in ten to eighteen minutes; 5 mg. of dye per kilogram is cleared in fourteen to forty-five minutes, with an average of about thirty minutes; 6 mg. of dye per kilogram is cleared in about thirty-five minutes and 10 mg. of dye per kilogram in about sixty minutes on the average.

The goal of this test, as well as any other laboratory procedure, is maximal sensitivity and a minimal number of false positive results. In the case of the sulfobromophthalein test the goals are somewhat incompatible. Thus, with a dose of 5 mg. of dye per kilogram of body weight and an allowance of only thirty minutes for the liver to clear the dye, the method would be max-

\*From the Section of Clinical Pathology, Mayo Clinic, Rochester, Minnesota.

This report includes the opinion of several members of the Section of Clinical Pathology at the Mayo Clinic and is based on experience of many years with this test at the clinic. The author wishes to express appreciation to Drs. T. B. Magath, D. R. Mathieson and F. D. Mann for advice and assistance in the preparation of the report.

\*Manufactured by Hynson, Westcott & Dunning, Inc., Baltimore, Maryland.

imally sensitive, but "positive" results would be obtained in a number of normal persons. At the Mayo Clinic the attitude is conservative; the dose of 5 mg. of dye per kilogram is used but a period of one hour is allowed before the residual concentration of dye in the blood is determined. As a result, false positive results are obtained but rarely, but an occasional case of early hepatic abnormality may be missed. Others who use this dye in amounts of 5 mg. per kilogram prefer an intermediate end point, namely, forty-five minutes. Use of readings at one hour is as well justified as use of readings at forty-five minutes. The former technique simplifies instruction and handling of the patient. Those who use the smaller dose of dye, 2 mg. per kilogram, usually prefer an interval of thirty minutes between injection of dye and collection of blood.

With the advent of photoelectric colorimeters and even spectrophotometers in the clinical laboratory some have discarded the naked-eye estimation of concentration of dye in serum and substituted these electric devices because of their apparent greater precision. Since a practiced observer can evaluate the concentration of dye to within 2 per cent, the need for mechanization in routine determinations has not been established.

It is commonly considered that in the presence of jaundice the sulfobromophthalein test is inaccurate because the presence of excessive bile pigment in the blood confuses the estimation of concentration of dye. The method is practically meaningless in the jaundiced patient but not because of technical difficulties. If the jaundice results from hepatic damage the liver cannot clear the dye from the blood; if the jaundice is secondary to biliary obstruction the dye cannot be disposed of by the bile and thus is retained in the circulation. As a result the test is almost invariably positive in the jaundiced patient and has no differential diagnostic value. Two recent studies may alter this somewhat gloomy outlook: (1) in complete biliary obstruction, dye is still demonstrable in the blood after three days, while it will have disappeared in that time in the case of primary hepatic damage; (2) Zieve's group has ingeniously correlated values for retention of sulfobromophthalein with concentrations of serum bilirubin, and has suggested differential diagnostic possibilities. Further study is warranted.

A new criticism of the test, particularly when

the larger (5 mg. per kilogram) dose is employed, has recently appeared. A group at Temple University found that as the excreted dye enters the intestinal tract, traces find their way back to the blood stream. However, careful investigation of this possibility has shown that the reabsorption is so minute as to be unimportant in the routine diagnostic test.

As with any procedure requiring intravenous injection, problems tend to arise. Some of these are difficulty in entering certain veins, venipunctures in children and the occurrence of reactions. Not a single fatality has occurred because of administration of sulfobromophthalein at the Mayo Clinic, although the test has been performed more than 60,000 times. Local pain occurs when the irritating dye is accidentally injected outside the vein but no necrosis or sloughing has been observed. Occasionally abdominal or precordial pain, nausea, or dizziness may occur and rarely generalized reactions, such as urticaria or asthmatic wheezing, may be encountered. Sensitization to sulfobromophthalein has not been reported.

Four observations that simplify performance of the test should not be overlooked: (1) rapid injection of the dye, rather than the recommended slow rate of injection, prevents painful venospasms and in experience at the clinic has not led to reactions; (2) no syringe or needle that has ever contained the dye should be used for the withdrawal of blood because traces of adherent dye can produce apparently positive results in the test; (3) the blood for testing should be discharged from the syringe gently, and with the needle removed to prevent hemolysis, which obscures the dye and (4) milky serum makes estimation of the concentration of dye difficult or impossible. Furthermore, it is possible that the ingestion of some types of food may temporarily alter the excretion of dye. Therefore the patient must fast before and during the test.

The simplicity of the sulfobromophthalein test for hepatic function, its need for only the most elementary equipment and the stability of the dye are factors that recommend it for general use. The dye is available readily on a commercial basis, together with properly prepared standard colors for comparison. The only additional equipment needed includes needles and syringes, tubes for the serum, a small comparator block

(Continued on Page 166)



# President's Letter

## A GOOD BEGINNING

Those of you who attended the County Officers' meeting of the Association, on January 17, saw the completion of one of the first and most important steps in a project initiated by the House of Delegates at the annual meeting in 1951.

I am speaking of the rural medical student scholarship award. The first recipient of the four-year scholarship was Richard L. Engwall of Winthrop, Minnesota. He will receive \$1,000 each year for four years while he is in medical school.

Richard Engwall is well known in Winthrop and neighboring areas for his continuous activities in school, college, church and civic affairs. He was valedictorian of his high school class, was class president three years, helped organize and was president of the Student Council. He was interested in and took part in high school and college sports and music, singing in choral groups and receiving honors in sports.

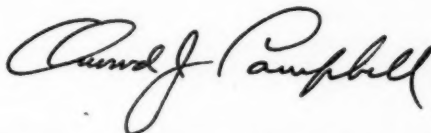
This scholarship marks the beginning—the beginning of a different approach to the problem of maldistribution of physicians in the country.

During the height of the heated campaign against compulsory health insurance, there was little time to consider a positive approach to any of the nation's medical needs.

When the emergency began to subside, it was time to initiate a positive program of action—to show the people that doctors themselves were deeply concerned in solving medicine's problems for the good of the health of the people.

Recognizing the difficulty that rural communities are encountering in obtaining doctors, and, as one of the facets of our Minnesota program, the House of Delegates in 1951 authorized the Rural Scholarship Program. A subcommittee of the University Relations Committee worked out the details of the program and selected Richard Engwall as the first recipient. Each succeeding year will result in a new selection until we are supporting annually four young men who will locate in towns of under five thousand.

Admitting that this is only a partial answer to the problem of maldistribution, we think is a good beginning. It points a way for communities needing doctors to obtain them. As the facilities for the practice of good medicine are gradually improved in the rural areas, maldistribution may cease to be a major problem.



*President, Minnesota State Medical Association*

# Editorial

CARL B. DRAKE, M.D., *Editor*; GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

## PANEL PRACTICE

THE ARTICLE "Inside the British Health Plan" by Dr. James Rogers Fox of Minneapolis is written from personal experience and portrays his impressions of the panel system in Britain.

Dr. Fox is a graduate of the University of Minnesota Medical School, received his intern training at Minneapolis General Hospital and since 1948 has been a member of the University of Minnesota Medical School faculty.

At the request of Dr. Verney of the University of Edinburgh staff and as a result of his contacts with visiting faculty members from the University of Minnesota Medical School, Dr. Fox was given an appointment as a visiting staff member at the Royal Infirmary of Edinburgh and at the University of Edinburgh. During his visit, he had personal experience as a specialist and as a general practitioner in the panel system.

Another article by Dr. Fox on his experiences with medical practice in a socialistic state appeared in the January issue of the *Hennepin County Medical Society Bulletin*.

We are violently opposed to Communism and are nearly as strongly opposed to Socialism. We believe that the mistakes of others should be publicized when it comes to nations as well as to individuals, even though such action may border on the realm of gossip. We have the opportunity of learning from the mistakes of others, as well as from our own mistakes. The experiences of Great Britain, Australia and New Zealand in government-provided medical care should have wide publicity, and then if we follow the lead of these countries we shall have no one to blame for our stupidity but ourselves. These countries have found their excursion into state medicine much more costly than was anticipated, opened the way to abuses and required modification of services rendered. Also, the quality of medical care suffered. We are, therefore, happy to be able to present Dr. Fox's article as another testimony to the manner in which Socialism works when applied to medical care.

## GAMMA GLOBULIN IN POLIO

SOME progress has been made during the past two years in the field of polio research. The demonstration by Dr. Dorothy Horstman of the Yale Medical School and by Dr. David Bodian of Johns Hopkins that the polio virus can be demonstrated in the blood of monkeys four to six days after it has been ingested and that antibodies are developed during this brief period opens up new possibilities. In a few monkeys, sufficient antibodies were formed to prevent paralysis, while in others the amount was insufficient or too slow in forming to prevent nerve-cell injury. In some instances, it was found to take three to seven days for paralysis to appear after the virus had been demonstrated in the blood. If during this period a slightly increased amount of antibody was added to the blood, paralysis could be prevented.

If this same sequence of events occurs in humans, it might be possible to prevent paralysis in some cases. In 1951-52, the hypothesis was tested by Dr. William McD. Hammon, Professor of Epidemiology at the University of Pittsburgh Graduate School of Public Health. Half of some 55,000 children in Utah, Texas, and Iowa were given injections of gamma globulin, the other half being given an innocuous substitute. Of the series, twenty-six cases of paralysis occurred among those inoculated, whereas sixty-four occurred in the control group. Financing of the investigation was by the National Foundation for Infantile Paralysis, with gamma globulin supplied by the American Red Cross.

Gamma globulin is not new. It has been used for the prevention or modification of measles and for epidemic jaundice for a number of years. Gamma globulin and serum albumin, which is so valuable in the treatment of shock, are obtained from the same pooled blood which is an important consideration as it is important that the blood contain antibodies for the several polio strains.

In view of the above facts, it seems as though something of distinct value has eventually evolved in the prevention of paralysis from polio.

At the request of the Office of Defense Mobilization, the American Red Cross has signified its willingness to expand its production of gamma globulin for free distribution with the proviso that some other agency take the responsibility of distributing the product.

Inasmuch as it takes over a pint of blood to provide the gamma globulin for one injection and an injection loses its effectiveness after five weeks, the required expansion of the Red Cross Blood Banks will be terrific. The annual campaign which will be conducted as usual in March will ask the public for 93 million dollars, which includes a necessary increase of 7 million to provide for this expansion.

Vaccination against polio will have to be limited to epidemic areas which may mean 150 of the 3,000 counties in the country. It is estimated that 2 million children will be exposed this year and each child may require two inoculations. It may as well be appreciated by the public that it is impossible for the Red Cross to expand its facilities fast enough to provide the gamma globulin which will be requested or demanded by frantic parents. The amount made available ultimately will also be dependent on the generosity of the public in the matter of dollars and blood.

The proof of antibody formation to polio infection, and the fact that infection with polio virus is much more widespread than the number of paralytic cases indicates, rationalizes the use of gamma globulin in an effort to reduce the havoc caused by the disease. The practical demonstration of its effectiveness justifies the extension of its use. It is within the realm of possibility that a vaccine may be developed before very long which will produce an active and long-lasting immunity to the disease.

## PUBLIC RELATIONS AND THE MEDICAL PROFESSION

ON November 30, 1952, the day preceding the opening of the AMA Clinical Session in Denver, the Public Relations Department of the AMA held an all-day session at the Shirley Savoy Hotel. This was the fifth yearly PR meeting held, and if attendance is any criterion, interest in the meeting has been progressively increasing from year to year.

Public relations will always demand consideration on the part of most industrial or professional

groups including physicians, human nature being what it is. Such a momentous change as that about to take place in Washington will not relieve the medical profession of the need for improving its public relations. It cannot be emphasized too often that the individual physician has the opportunity of being the best possible public relations agent for the profession. A physician who gives his best to each patient and bears in mind the Golden Rule is doing his part to better the public relations of his profession.

County, state and national medical organizations can and are contributing to the betterment of public relations. In 1948, there were about sixty emergency call stations in the country. The number was increased to some 650 by 1952. The number of county societies having mediation committees (formerly grievance committees) is also on the increase.

At the Denver meeting emphasis was placed on the key position held by the office assistant. A skit put on by a group of University of Colorado actors was illustrative. Too often physicians know little of what goes on in their reception rooms. A few years ago the State Medical Association of Iowa employed a field worker to explain Blue Cross and Blue Shield forms to office assistants and to instruct them in such fundamentals as answering the telephone and greeting patients. The office assistant is in a position to establish the whole tone of the office for better or for worse. The AMA pamphlet entitled "Winning Ways with Patients" contains some valuable suggestions for office assistants.

The physician is in a position to better the public relations of the hospital. He can prepare the patient for the shock of the first hospital bill by explaining that the rate for the room does not cover all the services rendered by the hospital but that such items as operating room, laboratory, anesthesia, x-ray and private nursing are extra.

The hospital needs this help. One hears considerable criticism of the high cost of hospital care and comparison is made with the cost of a hotel room today. It is forgotten that meals brought to the patient's room are included in the room rate and that floor nursing care in some hospitals amounts to as high as 38 per cent of the overhead. Some 500 hospitals throughout the country have distributed the AMA pamphlet entitled, "Your Money's Worth in Health," to their patrons in the interest of better public relations.

It was startling to hear that a group of young doctors in a western state a few years ago had shown an antipathy towards the American Medical Association. What grievance, actual or imagined, they had we do not know. When we consider that the AMA is composed of the state medical associations which in turn comprise the county societies and that the officers of the AMA are the men chosen by the representatives of the state associations it is difficult to understand such a situation. The formation of the Students' American Medical Association should do much to direct the medical students in the way they should go. The medical student of today, to some extent, is exposed to socialistic influences by professors who, consciously or unconsciously, instill in their minds socialistic ideas in relation to medicine.

The few members of the profession who overcharge for their services, insist on payment in advance of an operation, fail to provide for night calls, make unnecessary professional calls, operate unnecessarily and otherwise violate the Golden Rule give a black eye to their profession and counteract, to a large degree, the esteem in which most members of the profession are held by the public.

#### DR. DUBLIN RETIRES

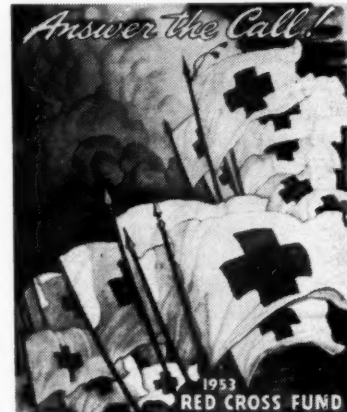
DR. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company, whose name has become almost synonymous with life insurance statistics, retired at the end of the year 1952 after forty-four years of service. He joined the company in 1909. Two years later he organized the Statistical Bureau and has been its chief ever since. His contributions on mortality, morbidity, longevity and other subjects have been invaluable to Life Insurance underwriting and administration.

Dr. Dublin's time was not entirely spent at a desk, working over figures. He served at times as president of the American Public Health Association and chairman of the Board of Directors of the American Museum of Health which created the Hall of Man in the New York World's Fair of 1939-40. Much of his time has also been devoted to other activities which include the Bureau of Census, the Public Health Service, the National Research Council, the American Cancer Society, the National Tuberculosis Association, the National Health Council, the New York

Tuberculosis and Health Association, and the Welfare and Health Council of Greater New York.

In 1944, Dr. Dublin was granted temporary leave to devote his full time as Assistant to the Chairman of the American Red Cross in Washington. During World War I, he was a member of the commission of the American Red Cross which was sent to Italy and the Balkans. As a result of his visit to France in 1945, a comprehensive program of relief was carried out by the American Red Cross for the children of France.

Dr. Dublin possesses that rare combination of scholar and practical administrator. His writings have been voluminous. It is hoped that his contributions to the welfare of mankind will not terminate with his retirement from the Metropolitan, but will continue for many years.



#### HERPES ZOSTER

(Continued from Page 152)

I am grateful to Mr. Charles Cochran, surgical specialist at Fulham Hospital, London, for permission to record Case 1.

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## AMERICAN MEDICAL ASSOCIATION

### Summary, Clinical Session

Denver, Colorado, December 2-5, 1952

The House of Delegates convened Tuesday, December 2, in Denver, Colorado. After the preliminaries, including the invocation and the report of the Reference Committee on Credentials, Dr. James R. Reuling, presiding as Speaker for the first time, introduced Dr. Louis H. Bauer of New York, President of the American Medical Association, and the meeting got under way.

In his presidential address, Dr. Bauer noted that there appears to be less danger, now, than for a number of years, of general socialization of medicine in the United States. But he listed a series of tasks which must still be accomplished if the American system of medicine is to be preserved, including the following: (1) work with rural communities to establish adequate facilities for physicians; (2) see that good medical care for the indigent is available everywhere; (3) extend public health coverage to all areas now lacking it; (4) develop plans for care of the chronic invalid; (5) expand the voluntary insurance program to cover more persons and also to cover persons over sixty-five and those suffering from illness of long duration; (6) clean the house of medicine by discipline of unethical physicians; (7) see that the services of a physician are always available; (8) revitalize county medical societies to make them leaders in all community health projects; (9) indoctrinate newly trained physicians in traditions and ethics.

Following presentation of President-Elect Edward J. McCormick of Toledo, Ohio, of Mrs. Ralph Eusden, President of the Woman's Auxiliary and of Mr. Clifford Vernick of Tufts Medical College and Mr. Leland Hoar of the University of Oregon Medical School, both representatives of the Student American Medical Association, reports of the Secretary, Dr. George F. Lull, and the Chairman of the Board of Trustees, Dr. Dwight H. Murray, and reference committee reports were given. Recommendations on these and other resolutions and reports gave rise to the following discussions and enactments:

#### "Commercialism" Lashed

Appointment of a committee was ordered by the House to work with the Advisory Board on Medical Specialties on development of means to increase the number and distribution of general practitioners. President Bauer declared, as a preliminary to this action, that the present system of channeling men into specialties virtually prevents general practitioners from ever becoming specialists and thus keeps the number of doctors going as general practitioners into rural areas far short of the need. He suggested that general

practice be established as one of the prerequisites for a majority of the special fields.

In response to Dr. Bauer's sharp criticism of what he termed "commercialism" in the practice of medicine, the House recommended that "state associations be adamant in disciplining unethical members, that they require more rigid ethical standards for membership, that medical schools provide training in the ethics and traditions of medicine and that the House go on record as thoroughly disapproving any business arrangement between pharmacists and physicians."

#### The Doctor Draft

After a stormy session in committee, the following position on the doctor draft law was adopted and approved without debate on the floor of the House. The Council on National Emergency Medical Service was instructed to continue to support legislation "to provide the number of medical officers required to care adequately for the health needs of the uniformed armed forces," but on these conditions:

1. Revision of physical requirements for medical officers so that physicians with physical defects will be placed on military duty with appropriate assignments.
2. Development of better recruitment methods by the Armed Forces for regular Medical Corps personnel.
3. Greater use of civilian doctors and hospital facilities for care of both military and non-military personnel.
4. More economical and efficient use of physicians in all government agencies.
5. Establishment of more uniform "conditions of service" among the several government agencies to put an end to "undue competition" for medical personnel.

#### Care of Civilian Dependents

Especially, the involuntary call-up of physicians for the care of civilian dependents of servicemen was hotly opposed in the debate on the doctor-draft. The Council on National Emergency Medical Service has consistently contended that too many military physicians are being used for the care of civilian dependents. The answer of the Armed Forces was that only 8 per cent of all in-patient care and 20 per cent of all out-patient treatments stem from care of dependents, although the Deputy Surgeon General of the Army admitted that "approximately 60 per cent of dependents of Army personnel are being so cared for." The military contends that it must provide care

for dependents overseas and in isolated areas of the United States and that its research, intern and residency programs and recruitment appeals get much of their strength from the fact that all types of patients can be seen by military surgeons.

#### For Special Pay

Further action on the doctor draft took the form of a resolution urging the President of the United States to defer any call-up of Priority III physicians until Selective Service and the Department of Defense have completed call-up of all physicians in Priorities I and II, except for the occasional individual who is considered essential.

The House also re-affirmed its approval of the \$100 special pay for physicians and dentists in the Armed Forces and urged an early meeting of state chairmen of advisory committees to get their thoughts on future doctor-draft legislation.

#### Medical Service for Veterans

The general question of medical care for veterans with non-service-connected disabilities was also warmly debated. Eventually, the recommendation of the Special Committee on Federal Medical Services, also known as the Martin-Henderson committee, was rejected. This recommendation called for new legislation limiting medical and hospital benefits for veterans in Veterans Administration facilities, to veterans with service-incurred or aggravated disabilities and veterans with tuberculosis and neurological conditions who are unable to pay for treatment.

Dr. Norman Booher, Vice Chairman of the National Rehabilitation Commission of the American Legion, said he believed that Public Law 312 defining eligibility for admission to Veterans' Hospitals should not be tampered with in Congress, though he also felt that there was entire agreement between the Legion and the medical profession as to the desirability of eliminating "chiselers." He believed there should be enforcement of the present law by administrative action rather than by new legislation. Dr. Joel T. Boone, medical director of the Veterans Administration, also felt that the House should not vote hurriedly on the recommendation.

As a result of the discussion, the House adopted a recommendation that the American Medical Association, the American Dental and Hospital Associations, the Veterans Administration and the Department of Defense should "sit down and try to reach reasonable conclusions for appropriate action from agreed upon data rather than to take any precipitate action now."

Other recommendations of the Martin-Henderson committee asking for congressional study as to whether provision of medical and hospitalization benefits for dependents of service personnel is a "proper and desirable emolument of military

service" and endorsing the present policy of transferring seriously disabled service personnel from service hospitals to Veterans Administration installations, were accepted.

#### Care for the Indigent

Among other important actions of the House were the following:

Physicians were urged to provide medical care for anyone unable to pay for it and county and state medical organizations were urged to implement this principle.

Significant alterations, emphasizing educational aspects of intern training, were adopted for approval of hospitals for internships.

Creation of a federal department of health with cabinet status was again recommended. But the House decided there was no need for an American Medical Association health commission comparable to the President's Health Commission since the various councils and commissions already established are now engaged in doing the job.

#### For Tax Relief

American Medical Association efforts were endorsed to achieve tax relief for physicians by making expenses of postgraduate education deductible for federal income tax purposes; by allowing physicians to set aside retirement funds from current income without paying taxes on such funds until the benefits are received and by other measures.

A committee was instructed to consult immediately with the American Osteopathic Association concerning use of physicians as instructors in osteopathic schools.

The House also opposed use of prisoners for scientific experiments as a means of gaining clemency. And it recommended withdrawal of the United States from the ILO (International Labor Organization) of the United Nations on the basis that ILO is socialistic and its action could supersede the United States Constitution.

#### Contributed \$500,000

The House contributed \$500,000 to the American Medical Education Foundation for support of medical schools. It urged that the meager existing supply of gamma globulin be conserved for civilian use.

It made a large number of changes in form in the Constitution and By-Laws of the American Medical Association in accordance with a directive of 1952 and in the interest of streamlining and modernizing the document and it asked all of the states to explore the precise role of government in the provision of medical service in their states.

Dr. John Mastin Travis of Jacksonville, Texas, was named General Practitioner of the Year.

(Continued on Page 163)

## THE MINNEAPOLIS DIABETES DETECTION CAMPAIGN—1952

The most successful of three Diabetes Detection Campaigns was experienced in Minneapolis during the November, 1952, drive.

It was felt that the two previous years had brought outstanding success to this endeavor, participated in by the Twin Cities Diabetes Association, Hennepin County Medical Society, Twin City Retail Druggists Association, and the Minneapolis Health Department. But 1952 exceeded all expectations for response by the public. The 1952 campaign is also noteworthy as the first year the Dreyapak strip method was used in testing.

Total specimens in the three consecutive years and results of testing were:

Year	Total Specimens Submitted	No. Screening Positives
1950	24,354	534
1951	14,015	258
1952	32,063	657

Each year careful planning by the participating agencies has started months in advance of the November Detection Week. Organization for operation, including collection of specimens, laboratory testing, and reporting to patient and physician; organization for publicity via press, radio, and television, posters, and leaflets; organization for tabulating and evaluating test results and necessary follow-up were all revealed each year again and again to bring about smoothest operation.

Very important to the success of the campaigns was the splendid co-operation of the local press and other media of communication.

In the first two years when liquid urine specimens were accepted, some daily laboratory procedures had to be suspended in the Health Department laboratory where all testing was done during Detection Week. Also, additional technical help had to be sought outside the laboratory staff. In all other phases, the work was absorbed within the normal resources of the Health Department. In the first campaign, only established collection stations of the Health Department were used for collection of specimens. In the two succeeding years, all drug stores of the city became collecting depots, and assistance in collection from these additional stations to the laboratory was given by the Twin City Retail Druggists Association.

Use of the Dreyapak strip test method in 1952 greatly simplified the work in the laboratory. This method, authored by Drs. Norman Drey and William H. Olmsted of St. Louis, Missouri, was found on preliminary testing and during the campaign to be as satisfactory as the former methods. Minneapolis served as a pilot study in use of this method for the American Diabetes Association. Through its use, the time-consuming handling of

liquid specimens in their original containers of assorted shapes and sizes, their numbering serially with matching number on test tube, to say nothing of disposition of urine and containers after the test had been completed, were all eliminated. In the first two years, the need for processing the liquid specimens as quickly as possible required long hours of work, even into the early morning hours. This was not necessary with the Dreyapak as the specimens do not deteriorate rapidly. Aside from the necessary opening of envelopes in which the strips were submitted and serially numbering the strips, the actual laboratory procedure on each strip was only a matter of seconds. At the peak of the load, one technician comfortably processed 7,000 strips in the normal work day.

The participating agencies in Minneapolis are very happy with the results of the 1952 Diabetes Detection Campaign in which the Dreyapak method played an important part.

Details of the method and results of follow-up are being prepared for release through the American Diabetes Association. From experience in Minneapolis, it would seem that the Dreyapak strip method is well suited for mass testing of urine specimens for the detection of sugar.

## AMA CLINICAL SESSION

(Continued from Page 162)

Dr. Travis has practiced medicine for forty-five years in Texas and was called by Dr. Dwight H. Murray, Chairman of the Board of Trustees, who presented him, "a man who exemplifies the best in our system of free enterprise."

## Future Meeting Places Named

Plans outlined by the Council on Scientific Assembly for future meetings were approved. They included the New York annual session scheduled for June 2-5, 1953, the clinical session at St. Louis in December, 1953, and the annual session in San Francisco in June, 1954. The clinical session for 1954 will be held in December in Miami.

After a unanimous vote of thanks to the local committee on arrangements, to the Denver Medical Society, the Colorado State Medical Association and their Auxiliaries for the entertainment of the delegates and their wives, the House of Delegates adjourned on Thursday, December 4, 1952.

J. ARNOLD BARGEN, M.D.  
O. J. CAMPBELL, M.D.  
GEORGE EARL, M.D.  
F. J. ELIAS, M.D.  
*Delegates to AMA*

# Medical Economics

Edited by the Committee on Medical Economics  
of the  
Minnesota State Medical Association  
George Earl, M.D., Chairman

## HOSPITAL ACCREDITATION GROUP ISSUES PROGRESS REPORT

The Joint Commission on Accreditation of Hospitals, charged with the job of carrying on the hospital standardization program conducted by the American College of Surgeons since 1919, has recently issued its first bulletin, containing information on the group's problems and progress since September 1, 1952, when it opened its office in Chicago.

The joint commission has five member organizations and each has a certain number of votes on the commission: The American College of Physicians, three votes; the American College of Surgeons, three votes; the American Hospital Association, seven votes; the American Medical Association, six votes; and the Canadian Medical Association, one vote.

Dr. Edwin L. Crosby, director of the joint commission, states in the first bulletin that one of the first actions taken by the Board of Commissioners of the Joint Commission was the adoption of the program of the American College of Surgeons. He states that a "Grandfather's Clause" was also established which provides that "the Joint Commission will accredit all hospitals for the year 1953 which, at present, have full approval of the American College of Surgeons."

The commission also promises that "accreditation will be continued until an inspection of the hospital under the new Joint Commission program has been made."

### Present Standards Retained

The second part of the Grandfather's Clause states that for the present the standards as well as the point rating system developed by the American College of Surgeons will be used as a basis for approval of hospitals. However, Dr. Crosby reports, "as the Joint Commission's program progresses, forms and procedures may be changed. In fact, the JC's Board of Commis-

sioners intends to review the standards critically and, where needed, to make helpful changes."

The Commission bulletin emphasizes that the basic principle of good patient care in hospitals—which has been the criterion for approval during the years the program was under the sponsorship of the American College of Surgeons—will remain intact.

### Surveys Outlined

The Joint Commission will assume all responsibility for the accreditation of hospitals on or before January 1, 1953. Actual surveys of hospitals will be conducted as follows:

"Inspections of hospitals will be conducted by surveyors employed by the member associations of the Joint Commission. At this writing, three of the five associations will have surveyors available for field work by the first of the year. These three groups are the American College of Surgeons, the American Medical Association and the American Hospital Association."

The bulletin emphasizes this fact:

"Although the survey will be made by representatives of these associations, the actual findings will be submitted to the Joint Commission for evaluation and subsequent accreditation or non-accreditation. In other words, all action on accreditation will be taken only by the Board of Commissioners of the Joint Commission . . . regardless of which particular member association does the inspection of an institution—all decisions on accreditation will be made only by the Joint Commission."

### Significance Cited

Dr. Crosby noted awareness of the tremendous significance of this new undertaking. He quoted Dr. Gunnar Gundersen, the Commission's chairman, who said:

" . . . It is a voluntary movement representing the best thinking and the best inspiration of five of the most powerful groups in the world dealing with health. . . . We recognize what this will mean to the care of



the sick and injured of two friendly nations, Canada and the United States.

"If our duties are discharged well, the benefits to mankind through our profession, through our hospitals, and for our civilization are unreckonable."

### By-Laws State Purposes

The purposes of the Joint Commission on Accreditation of Hospitals are stated emphatically in the Commission's thorough set of By-Laws. These purposes are:

"(a) To conduct an inspection and accreditation program which will encourage physicians and hospitals of the United States and Canada voluntarily:

- (1) to apply certain basic principles of organization and administration for efficient care of the patient; (2) to promote high quality of medical and hospital care in all its aspects in order to give patients the greatest benefits that medical science has to offer; and (3) to maintain the essential diagnostic and therapeutic services in the hospital through co-ordinated effort of the organized medical staff and the governing board of the hospital.

"(b) To establish standards for hospital operation.

"(c) To recognize compliance with standards by issuance of certificates of accreditation.

"(d) To assume such other responsibilities and to conduct such other activities as are compatible with the operation of a hospital accreditation program."

### EDITOR HITS "FEDERAL THOUGHT CONTROL"

"Our federal government today employs two methods in the attempt to control the press." An editor of a Southern newspaper made that statement recently when speaking before a meeting of the Florida Medical association.

Virgil M. Newton, Jr., managing editor of the *Tampa Morning Tribune*, spoke on "Federal Thought Control, a Challenge to American Liberties and Freedom," and named the two methods for controlling the press as:

1. Direct and outright censorship. Mr. Newton stated that the best example of this is the censorship of income taxes.

2. Propaganda, which is nothing more and nothing less than attempted thought control. Mr. Newton said, "And it is in this field that our government has waged its campaign for socialized medicine."

He went on to point out that today, according to the Congressional Record, "the federal government is spending \$100,000,000 a year for its

press releases, prepared by 50,000 government press agents, and \$200,000,000 a year for the printing of these releases. That is a total of \$300,000,000 a year for federal propaganda."

### Explains Methods

Describing how the system worked in the socialized medicine issue, Mr. Newton stated:

"In 1945, President Truman sent a message to Congress calling for a national health insurance program which was nothing more than socialized medicine. Shortly afterwards, the Surgeon General of the United States Public Health Service sent a letter of instructions to all employees of that government agency. One paragraph of that letter read as follows: 'Every officer of the Public Health Service will wish to familiarize himself with the President's message and will be guided by its provisions when making any public statement likely to be interpreted as representing the official views of the Public Health Service.'"

Another official of the Public Health Service, quizzed by a House committee as to why the propaganda issued by his agency supported socialized medicine, replied:

"We would naturally give emphasis to that, because that is why we are in the government. Otherwise, we should get out of the government."

Commented Mr. Newton:

"This is a strange concept coming from a public servant of a so-called Democracy . . . implied that if you do not favor socialized medicine, then you have no business in the government. He further implied that it was perfectly all right for a government official to spend taxpayers' funds in pushing our republic down the road to socialism, even though Congress at no time approved any policy favoring socialized medicine or had appropriated funds for such propaganda."

### Agencies Issue Material

Mr. Newton reported further that over the years, hundreds and hundreds of pamphlets, booklets and press releases were issued by the Social Security Board, the Public Health Service, the Children's Bureau, the Office of Education, the U. S. Employment Service and the Department of Agriculture, all of which materially supported national health insurance. He cited one pamphlet which said, "You can write a letter to the Readers' Column of your local newspaper, tell your editor why the readers of the paper should back the national health insurance."

### Workshops Noted

Among other methods used to foster socialized medicine, Mr. Newton told Florida doctors that the propaganda campaign centered around the "Health Work Shops" which were held in Washington and in other parts of the country. These workshops were conducted by a dozen or more federal security officials who would meet with many carefully selected persons and thoroughly indoctrinate them with socialized medicine views. They would then urge them to conduct smaller local meetings and to spread the word "in such a fashion that a wave of pro-socialized medicine public opinion, even though it be false, would be generated and would sweep across the country and engulf Congress."

Fortunately, however, the opposition to government-controlled medicine grew ever faster, and mounted to sufficient force to let Congress know that Americans wanted no part of it. It is hoped that such propaganda releases from government agencies will be put to a stop now that an administration is in power which is known to oppose government interference.

### COMMUNIST LOGIC FALLS SHORT

An interesting observation was seen lately in an advertisement from a manufacturer of machine tools, textiles and machinery. The ad was headed with a quote from the writings of Karl Marx, father of Communist teachings: "From each according to his ability; to each according to his needs." The ad then proceeds to tear apart this basic Communist tenet:

"A noble sounding philosophy, isn't it?  
 "So you take half the bees' hard-earned honey, and give it to the wasps who have spent the summer having an easy time.  
 "So half the bees starve to death but the wasps learn to like free honey (there is a special type of wasp that does!) and are now so well fed that they multiply in strength and numbers."

Concluding, the advertisement says:

"Now they've had a taste of soaking the rich, of 'sharing the wealth'—so they refuse to do any work, and demand *all* the bees' harvest. The now-outnumbered bees try to refuse but the wasps seize the honey, eat it all, and let the bees, who gathered it, starve.  
 "So pretty soon you have no industrious bees, and the place is swarming with wasteful, useless wasps.  
 "Tough on the bees. And on the world.  
 "But such a sweet philosophy!"

### LABORATORY AIDS

(Continued from Page 156)

and a 10 per cent (not 0.1 normal) solution of sodium hydroxide to alkalize the serum and bring out the dye. It is better to use a source of artificial light, such as a fluorescent tube, so that the intensity of illumination is uniform and not variable, as is natural light.

In view of the ease of performance of this test, its freedom from complicating reactions and the valuable information it may provide relative to the state of the liver in nonjaundiced patients, it is surprising that the technique does not enjoy more widespread application.

\* \* \*

This is the second of a series of editorial reports published under the auspices of the Minnesota Society of Clinical Pathologists. As stated in the preceding issue of MINNESOTA MEDICINE, the purpose of these reports is to bring to mind aids to the practice of medicine that may be expected from the wider and more correlated application of laboratory science. Again it should be emphasized that the pathologist is a consultant physician whose specialized knowledge covers a large fraction of medical practice. If this knowledge can be applied to further the welfare of the patient, the pathologist is glad to supply it when he is sought out by the practicing physician. The Society welcomes such consultation and its members are glad for a chance to help resolve any problems that may face the medical practitioner.

In most cases, reprints of these reports will be available from either the author of the individual report or the chairman of the editorial committee of the Society. The members of the editorial committee, Dr. Arthur H. Wells of Duluth and Drs. Arthur H. Sanford and George G. Stilwell of Rochester, welcome any suggestions regarding these presentations.

George G. Stilwell, M.D.,  
 Chairman, Editorial Committee

### "A DISEASE WHICH HAS NO FRONTIERS"

A recent British writer designates tuberculosis as "a disease which has no frontiers." Quarantine cannot be used against it as is possible in foci of plague, cholera or yellow fever. Segregation in sanatoria is our best substitute. But even this has its drawbacks. First, there are not enough beds; second, discharge against advice is still current, releasing infectious cases again into circulation.—KENDALL EMERSON, M.D., *Connecticut State Medical Journal*, May, 1952.

# Minneapolis Surgical Society

Meeting of October 1, 1952

The President, Hamlin Mattson, M.D., in the Chair

## PANCREATITIS COMPLICATING COMMON DUCT SURGERY

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In 1899, Reginald Fitz,<sup>6</sup> writing of acute pancreatitis, stated, "at first sight, the etiological importance of gallstones seems immediate" and "these cases (of pancreatitis) would suggest that these affections were more important from the associated inflammation of the mucous membrane with its opportunity of extension into the pancreatic duct than from the actual or possible perforation of the biliary canal." There are many other interesting historical milestones in the development of our present thoughts concerning pancreatitis. In 1856 Claude Bernard<sup>12</sup> first produced pancreatitis by injecting bile and sweet oil into the pancreatic duct of a dog and caused death in eighteen hours from acute hemorrhagic pancreatitis. Lancereaux<sup>12</sup> in 1899 was the first to suggest that regurgitation of bile into the pancreatic duct might be the cause of pancreatitis in humans. Opie in his classical description in 1901 presented the autopsy evidence of a case of acute hemorrhagic pancreatitis with a stone lodged in the ampulla of Vater.<sup>15</sup> Archibald in 1919 caused pancreatitis in animals by forcing ox bile, human bile and bile salts into the gall bladder under high enough pressure to cause sphincter spasm of the Sphincter of Oddi.<sup>2</sup> This caused the material to be forced back into the pancreatic duct and lead to the development of pancreatitis. He advocated the term pancreatic necrosis since the essential lesion was one of necrosis.

Cameron and Noble,<sup>3</sup> in 1924, using fresh specimens, were able to demonstrate a communication, or common-channel, between the common bile duct and the main pancreatic duct in 74 per cent of their cases. Wangenstein, Leven and Manson,<sup>18</sup> working with cats in 1931, ligated the ampulla and injected air into the gall bladder. This caused a contraction of the gall bladder and a reflux of material into the pancreatic ductal system and a resultant pancreatitis. They concluded that there was a combination of factors working together to cause pancreatic necrosis. Howard<sup>9</sup> has made the statement that there is no definite etiological agent for pancreatitis which is common to all of the cases. C. W. Howell, working at the Minneapolis Veterans Hospital, demonstrated a direct relationship between an elevated serum amylase and filling of the pancreatic duct by cholangiography. In postoperative patients with choledochostomies and T-tubes, he demonstrated that

filling of the pancreatic duct was associated with an elevated serum amylase in over 80 per cent of the cases.<sup>12</sup>

From all of these reports we arrive at the conclusion that the common-channel is one of the important factors in the development of pancreatitis. The frequent association between disease of the biliary tract and pancreatitis is one of common knowledge. This association occurs in as high as 70 per cent of the cases of pancreatitis.

It is now generally accepted that the pathological process in pancreatitis is due to the escape of pancreatic enzymes into the gland substance, into the surrounding tissue or into the blood stream. How this escape occurs or how it is initiated is not entirely clear. There is either, (1) an obstructing mechanism within the ducts leading to an escape of inactivated trypsinogen into the tissues where it is activated leading to further digestion, necrosis, and hemorrhage; or (2) there is a reflux of duodenal contents or bile which activates the trypsinogen and leads to trypsin and its subsequent digestive action on the duct, surrounding tissue, and vessels; or (3) there is a traumatic release of the enzymes into the surrounding tissues. It has been demonstrated that there must be a venous absorption of enzymes into the blood stream and that probably a good share of the toxemia associated with pancreatitis is due to the hepatotoxic effects of the high amylase content in the portal venous system.<sup>11</sup>

Since the common-channel is important for the development of pancreatitis and since this anatomical arrangement is present in a high number of individuals, it is gratifying that more postoperative cases are not encountered. The many times that the common bile duct is explored for stones by probing and instrumentation would lead one to expect that trauma in the region of the common-channel would precipitate pancreatitis with a much higher frequency.

Pancreatitis is not a frequent complication of biliary tract surgery. Von Schmieden and Segening<sup>10</sup> reviewing 2,137 cases of pancreatitis in which there were 1,278 cases of pancreatic necrosis, found only thirty-eight cases of pancreatitis following biliary tract surgery. In these there were only nine following supra-duodenal choledochotomy. Colp and Ginsburg,<sup>5</sup> reviewing 130 autopsies in cases of surgical diseases of the biliary tract, found six cases where pancreatitis

Inaugural thesis presented before the Minneapolis Surgical Society, October 1, 1952.

FEBRUARY, 1953

167

was the cause of death for a percentage of 4.5 per cent. Although the frequency is not great, as will be noted from the cases presented, the prognosis is most unfavorable. It appears that the anatomical arrangement is of some importance for the development of pancreatitis. Two requisites have been advanced for regurgitation.<sup>10</sup> The common-channel must be present or anatomically possible and long enough (at least 5 mm.) to give obstruction to the orifice without obstruction to the ducts. The pressures must be such that the direction of flow is proper. This latter requisite of proper pressures is dependent on whether the main pancreatic duct communicates with the accessory duct or not and whether the duct is patent. Since the duct of Santorini has no sphincter at its orifice in the duodenum, the greater pressure in the duct of Wirsung as compared to the pressure in the common bile duct can be nullified if the duct of Wirsung and Santorini communicate with one another. It has been found that 46 per cent of cases have communications between the ducts of Wirsung and Santorini. This of course gives an avenue of escape to the pancreatic secretion if the main pathway is blocked at the ampulla of Vater.

Various reasons for exploring the common duct at the time of operation on the biliary tract have been promoted.<sup>1</sup> Whether these indications are preoperative such as jaundice, chills, fever, frequent colic, severe nausea, or others; or whether they are operative such as small stones or sand, palpable stones in the duct, contracted gallbladder, or abnormal appearance of the bile, nevertheless numerous ducts are constantly being explored. It is usually thought judicious that drainage of the common duct be done following exploration. This is often accomplished by means of a T-tube. Some have advocated that one limb of the "T" be passed through the sphincter into the duodenum if there be any evidence of stenosis present.<sup>14,17</sup> The dilatation of the sphincter by dilators is also advanced as one of the principles to follow. It has been recommended that this dilatation be done rather vigorously.<sup>13</sup>

Cholangiography done at the time of operation has also been advocated as an aid to determine the presence or absence of disease of the duct. Zierold, as an advocate of this procedure, has not encountered pancreatitis as a complication in several hundred cases. Following this technique, the cholangiogram is most often done as a substitute measure for probing and instrumentation of the duct.<sup>20</sup>

As will be noted from the cases presented, it appears that leaving a tube extending into the duodenum creates a definite hazard and may precipitate an unfavorable outcome. It may also be concluded that cholangiography done at the time of the operation, especially when employed in addition to the usual exploratory procedures on the common bile duct and without control of pressure is not entirely an innocuous procedure. The surgical principle of the gentle handling of tissues, always a virtuous guide, applies as well to the dilatation of the sphincter of Oddi. Pancreatitis does occur following operation on the common duct and has a very poor prognosis.

A review of the literature on this subject reveals

cases very similar to those herein presented. Allen<sup>1</sup> reports a patient who developed acute hemorrhagic pancreatitis and died within three weeks following cholecystectomy and common bile duct exploration at which time the sphincter was dilated to 8 mm. Smith<sup>16</sup> described acute pancreatic necrosis occurring in a patient following cholecystectomy and choledochostomy and terminating fatally on the sixteenth postoperative day. This patient had a long-armed T-tube left in with the tube going through the sphincter into the duodenum. The duct of Santorini did not communicate with the duct of Wirsung. Gargas<sup>7</sup> reported a case of acute hemorrhagic pancreatitis with a fatal outcome on the twenty-eighth postoperative day following choledochotomy. Shock was one of the outstanding symptoms in this case. Glenn and Hays<sup>8</sup> reported a case of pancreatitis following choledochostomy which at autopsy showed a large calculus impacted in the ampulla with an anatomical common-channel. Coffey,<sup>4</sup> reviewing 135 cases of pancreatitis with unusual features, encountered two fatal cases of acute hemorrhagic pancreatitis following choledochostomy. One of these had a long-limbed T-tube going through into the duodenum. Three patients had non-fatal pancreatitis resulting from cholangiography at the time of operation using 35 per cent diodrast. In two of these cases the pancreatic duct was visualized on the cholangiogram.

The following cases are presented to demonstrate the development of pancreatitis complicating surgery of the common bile duct:

**Case 1.**—C. M., a woman aged thirty, was admitted to the hospital November 9, 1950. Right upper quadrant pain, food dyscrasia, belching, and jaundice had been present for two weeks. Pruritus and acholic stools had been present one week. Examination showed icterus, and tenderness in the right upper quadrant. There was a poorly functioning gallbladder on cholecystogram. At operation two stones were removed from the common bile duct; cholecystectomy and choledochostomy were done. The sphincter was dilated to 7 mm. and a long-limbed T-tube left with one limb through the sphincter into the duodenum.

Thirty-eight hours postoperatively the patient developed profound vasomotor collapse. The shock responded to treatment for a time but the jaundice increased, the hypotension persisted, and the patient expired seventy-two hours postoperatively.

At autopsy, massive acute hemorrhagic pancreatitis with profuse fat necrosis in the peritoneal and pleural cavities was encountered. The long limb of the T-tube obstructed the main pancreatic duct of Wirsung at the common channel and the accessory (Santorini) duct did not communicate with the main pancreatic duct.

**Case 2.**—W. M., a man, aged sixty-four, was admitted to the hospital on May 16, 1951. He gave a history of noting melena intermittently for two years. The examination was noncontributory except for a suspicious small bowel lesion on x-ray examination. The cholecystogram was negative.

Exploratory laparotomy was done and stones were found in the gallbladder and also in the common bile duct when it was explored. Cholecystectomy was done and cholangiography carried out at the time of the operation. The sphincter was dilated to 7 mm. and a short limbed T-tube left in the common duct.

Postoperatively the patient did poorly and the course was progressively downhill. Forty hours postoperatively



there was profound shock. The serum amylase was 242. There was pronounced drainage of sloughed necrotic pancreas and the patient went on to expire on the forty-eighth postoperative day.

**Case 3.**—O. P. was a seventy-year-old male admitted to the hospital on July 16, 1951, with a complaint of intermittent epigastric pain and food dyscrasia of one year's duration. There had been occasional jaundice and acholic stools with these episodes.

Examination revealed icterus of the skin and sclerae. The urine showed positive bile and the serum amylase was normal.

Cholecystectomy was done and common duct exploration carried out. A stone was removed from the lower end of the common duct. The sphincter was dilated to 7 mm. A short limbed T-tube was left in the common duct.

On the sixth postoperative day the patient developed severe substernal pain and hypotension. A diagnosis of coronary occlusion was made. The patient gradually lost ground and expired on the nineteenth postoperative day.

Autopsy showed pancreatic necrosis in the head of the pancreas. The heart was normal.

**Case 4.**—G. S., a man aged fifty-eight, was admitted to the hospital on July 25, 1951. The history was that of epigastric distress for two years. There had been relief obtained with soda and vomiting. For one week before admission he had had severe abdominal pain of an acute nature and periods of colic.

Examination showed an acutely ill man with an enlarged liver and a tender mass below the liver thought to be the gallbladder.

After two weeks of conservative treatment without much improvement operation was undertaken. A sub-acute cholecystitis was found and the gallbladder was removed. Common duct exploration was carried out, the sphincter dilated to 5 mm., and cholangiography done at the time of the operation. T-tube drainage was established using a short limbed tube.

The patient did not do well postoperatively. He failed to establish peristalsis and had several periods of hypotension responding to conservative treatment temporarily. Of the seventh postoperative day a mass developed in the operative area and drainage of an acute pancreatic necrosis was instituted. He expired on the seventeenth postoperative day. At autopsy marked pancreatic necrosis was found.

**Case 5.**—B. H., a man aged fifty-seven, was admitted to the hospital on June 27, 1952. There was a thirty-four-year history of intermittent, nausea, epigastric pain, and vomiting. Fourteen years previous an operation had been performed for suspected perforation of a duodenal ulcer and an acute pancreatitis had been encountered. He had an acute exacerbation of symptoms the day before admission.

Examination showed epigastric tenderness and evidence of rebound tenderness. The white blood count was 19,850 and the serum amylase 3036 units.

After one month of conservative management with complete subsidence of acute symptoms, cholecystectomy was done. Common duct exploration was carried out. The sphincter was dilated to 5 mm. and a short limbed T-tube left for drainage. Cholangiography was done after the exploration at the time of operation.

The patient had a febrile postoperative course, jaundice became marked, there was profuse bile drainage, and leukocytosis of 23,350 developed. A bile abscess followed and was drained. The drainage was profuse. A mass in the operative area was surgically drained and pancreatic necrosis encountered. The patient became a feeding problem, feeding jejunostomy was established but he gradually lost ground and expired on October 19, 1952.

## Conclusions

1. Pancreatic necrosis does occur following surgery of the common bile duct.
2. The prognosis after its development is very unfavorable.
3. Trauma to the sphincter by rough handling and instrumentation may precipitate reflux and the development of pancreatitis.
4. Leaving of the tube through the sphincter into the duodenum may block the outlet of the pancreatic duct and promote development of pancreatic necrosis.
5. Cholangiography done at the time of operation without adequate control of pressure may have an adverse effect and be a factor in the development of pancreatic necrosis.

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## CARCINOMA OF CARDIAC END OF STOMACH AND ESOPHAGUS

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Chicago, Illinois

Carcinoma of the cardiac end of the stomach and of the esophagus is a more common disease than is generally recognized by the medical profession. As the patients admitted to the Veterans Administration Hospital, Hines, Illinois, are largely residents of the surrounding area, the statistics from this hospital should give a fairly accurate indication of the incidence of this disease among adult males of the Middlewest. Patients admitted to this hospital during the past five years included those with carcinoma of the lung, colon, stomach and esophagus in the following number and approximate ratio:

1946-1951		
	No. of Cases	Ratio
Lung .....	606	4
Colon .....	495	3
Stomach .....	288	2
Esophagus .....	135	1

It is interesting to note that for every two patients admitted with carcinoma of the stomach, one patient is admitted with carcinoma of the esophagus. Of the patients with carcinoma of the stomach, a large number have had the disease located in the proximal portion of this organ.

## Carcinoma of the Esophagus

Carcinoma of the esophagus has been a neglected disease because until recent years the physician had little to offer the patient. As a result, the recognition of this disease and the methods of study have been disregarded. Almost invariably tumors of the esophagus manifest themselves months before they are diagnosed and a longer time elapses before the patient is referred to a surgeon competent to administer adequate therapy.

A careful analysis of patients with carcinoma of the esophagus has shown three early symptoms. The first of these is anorexia. The loss of appetite of patients in middle or later life is the earliest symptom of carcinoma of the esophagus and of the proximal stomach. This symptom should suggest to the physician the possibility of such a lesion. A relatively short time later the patient complains of a vague substernal discomfort often associated or soon followed by some difficulty or distress in swallowing solid food. These symptoms suggest a lesion of the esophagus, and demand immediate study of this structure.

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Late symptoms of carcinoma of the esophagus consist of difficulty in swallowing soft foods or liquids, progressive weight loss and occasionally hematemesis. If these symptoms develop, they are usually an indication of an advancement of the disease to a stage where complete cure is impossible because of direct or metastatic spread.

*Methods of Diagnosis.*—In the very early stages of carcinoma of the esophagus, the lesion often can be recognized only by esophagoscopy. When it is very small, roentgenologic studies may not reveal this disease. If a suspicious lesion is seen through the esophagoscope a biopsy is indicated. Many endoscopists fear biopsy because of the danger of perforation of the esophagus and the development of mediastinitis. In the past this was a serious complication. At present its dangers are greatly minimized by the use of antibiotics and the surgical approach to this complication.

Roentgenologic studies often will reveal carcinoma of the esophagus even at an early stage. In the past, roentgenologists neglected the esophagus in gastrointestinal studies. Their interest and study of this organ in recent years has enabled them to diagnose many early lesions. The entire medical profession must realize that the gastrointestinal tract does not begin in the mid portion of the stomach, if early diagnosis of lesions of the esophagus and proximal stomach are to be made.

It is interesting to note that although anatomy of the stomach is an old science, it has only been recently recognized that all blood supply to this organ, except that supplied through the right gastric and right gastroepiploic arteries, can be interrupted and the organ will remain entirely viable and anastomotic procedures at its fundus will heal in a normal manner. Only recently was it realized that the stomach could be transplanted into the chest or even through the chest and into the neck to replace the entire esophagus with easy and with little physiologic disturbance.

*Principles of Surgical Approach.*—The entire stomach and thoracic esophagus can be dealt with surgically by a resection of the seventh left rib and an incision through the diaphragm. If the esophagus above the arch of the aorta is to be utilized, access to it is facilitated by division of the posterior end of the left sixth and sometimes fifth rib. Some surgeons prefer to approach the esophagus through the right chest. This necessitates mobilization of the stomach through an additional abdominal incision. We prefer the left thoracic approach because it involves less surgical time and trauma. We have always been able to mobilize the esophagus behind the arch of the aorta through a left thoracic incision in operable lesions. If the carcinoma involves the cervical esophagus, we prefer to first approach it

through a neck incision to determine its operability. If the lesion can be resected, the left thorax is then entered, the stomach and esophagus mobilized and the stomach brought up through the chest anterior to the aorta and into the neck incision where it can be anastomosed to the cervical esophagus above the lesion. Lesions of the lower esophagus which can be satisfactorily removed and the stomach anastomosed to the esophagus below the arch of the aorta are approached by resection of the left eighth rib.

### High Gastric Lesions

Malignant lesions of the proximal stomach can be readily approached by resection of the left eighth rib and an incision through the left diaphragm. This approach gives direct access to the stomach and surrounding organs which may be invaded by tumor, including the left lobe of the liver, spleen, pancreas, left adrenal gland and the portion of the diaphragm surrounding the esophagus. It permits an extensive glandular resection, especially in the region of the celiac axis. It also permits a wide omental resection. It is our belief that the incidence of cure or prolonged palliation is more dependent upon the extent of resection of gland bearing tissue than upon the amount of uninvolved stomach removed. We prefer to save some normal stomach if possible because we believe this leads to greater subsequent physiologic comfort.

### Postoperative Care

The postoperative care of patients undergoing gastroesophageal resection is as important as the surgical technique employed. This care should be the joint responsibility of the surgeon, anesthesiologist, and well trained recovery room personnel. The following points are emphasized in the postoperative management of these patients.

*A. Stir-up Regime.*—Patients are frequently moved from side to side and urged to move around in bed. They are ambulated early.

*B. Tracheo-bronchial Aspiration.*—The patient is constantly observed for evidences of tracheo-bronchial occlusion. When this occurs, immediate aspiration by tracheal catheter or bronchoscope is instituted. We do not believe routine tracheotomy is advisable or necessary for the removal of bronchial secretions.

*C. Suction.*—A double lumen tube is placed at the time of operation with the suction portion in the stomach and the feeding limb extending into the small bowel. Constant suction is maintained to avoid distention which may place traction on the suture line and also interfere with the cardio-respiratory system.

*D. Sedation.*—The use of opiates is discouraged. Thoracic pain is controlled by intercostal block. This permits the patient to breathe deeply without pain and minimizes pulmonary complications.

*E. Oxygen Therapy.*—Oxygen is administered only when there is evidence of oxygen want. It is administered by nasal catheter or oxygen mask. We are opposed to the use of oxygen tents because they interfere with other postoperative measures.

*F. Nutritional Balance.*—An effort is made to replace blood, volume for volume, by careful determination of the amount lost at operation. Additional blood is not given unless there is evidence of anemia. Other fluids and nutritional elements are given as indicated, and caution is taken not to overload the circulation.

*G. Antibiotics.*—The use of antibiotics is important but does not replace other factors in good postoperative care.

A well organized recovery room with trained personnel is a great aid to the recovery of patients undergoing transthoracic gastroesophageal surgery.

### Results

*Mortality.*—The mortality of gastroesophageal surgery has been noticeably diminished and should not be higher than in other types of major surgery performed upon similar types of patients. The most important single factor responsible for postoperative complications is the poor nutritional state of these patients when they are presented to the surgeon, and the difficulty of improving their nutritional state before operation.

*Cure.*—We believe that carcinoma of the esophagus can be cured in a higher percentage of cases than carcinoma of the stomach. This is probably not true at present because of the advanced stage of the disease at the time of operation. Our patients have had symptoms for periods ranging from three months to over a year and usually have lost from twenty-five to seventy-five pounds in weight. As this disease tends to produce symptoms in its early stages, its early recognition and treatment should improve surgical results.

*Palliation.*—Even though the disease has spread to adjacent structures where it cannot be entirely irradiated or has metastasized to other organs, removal of the local lesion and re-establishment of the continuity of the esophagus and stomach can give patients many months of comfort during which time they are able to ingest food and are relieved of the distressing symptoms of starvation.

The meeting adjourned.

ALBERT T. HAYS, M.D., *Recorder*

# Minnesota Academy of Medicine

Meeting of October 8, 1952

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town & Country Club on Wednesday evening, October 8, 1952. Dinner was served at 7 p.m. and the meeting was called to order at 8:15 p.m. by the President, Dr. Owen H. Wangenstein.

There were forty-two members and six guests present. Minutes of the May meeting were read and approved.

Dr. Lowry, Chairman of the Program Committee, asked the members to send in titles of papers or cases they would like to present during the coming year.

Dr. John E. Hynes read the following Memorial to Dr. Charles D. Freeman, and a motion was carried that it be spread on the records of the Academy and a copy sent to the family of Dr. Freeman.

## CHARLES D. FREEMAN, 1879 - 1952

Charles D. Freeman was born in St. Paul on January 20, 1879, son of George and Mrs. Freeman. He was graduated from Central High School, and attended the University of Minnesota two years in the College of Science, Literature and Arts, before deciding upon a career in Medicine. He matriculated in the University of Minnesota Medical School in 1900, and was graduated in 1904. After a year as intern in Luther Hospital, he spent two years in postgraduate study in Vienna, Berlin, Paris and London, specializing in Dermatology, and re-

turned to St. Paul where he practiced until his retirement three years ago.

He was a member of the American Medical Association, Minnesota State Medical Association, Ramsey County Medical Society, a Past President of the Minnesota Academy of Medicine, and a member of the American Dermatological Society. He was on the staffs of Ancker, St. Joseph's, and St. Luke's Hospitals, and a member of the University of Minnesota Medical School teaching staff.

As it must come to all things mortal, death came to him on April 18, 1952, at the age of seventy-three years. He is survived by his wife, two daughters, Margaret and Helga, and a son, Dr. Charles D. Freeman, Jr., all of St. Paul.

In addition to his other good qualities, his one great characteristic was friendliness. We do not believe he had an enemy in the world.

No better example of love and selfless sustaining devotion could be possible than that of his wife in his last long illness.

Ave, atque vale!

JOHN E. HYNES, M.D.

HAROLD E. HULLSIEK, M.D.

Dr. Eldon B. Berglund of Minneapolis [by invitation] gave a paper on "Surgical Approach to Atelectasis in the Newborn."

## SURGICAL APPROACH TO ATELECTASIS IN THE NEWBORN

O. S. WYATT, M.D., T. C. CHISHOLM, M.D., E. BERGLUND, M.D.,  
and W. P. EDER, M.D.  
Minneapolis, Minnesota

Atelectasis of the newborn accounts for approximately 50 per cent of all deaths in the neo-natal period. The causes of atelectasis in the newborn are still the subject of controversy. One group feels that aspiration of the amniotic fluid during the time of delivery results in failure of the lungs to expand properly. Another group contends that aspiration of the amniotic fluid does not account for the development of the atelectasis. Over recent years attention has been focused on the so-called hyaline membrane, a pink staining homogenous material lining the alveolar ducts which is seen on microscopic section of lungs of newborns dying of the clinical picture of the atelectasis.

The disease occurs most commonly in premature infants but may be seen in full term infants. The diagnosis during life is based primarily on clinical findings. These babies develop respiratory distress in some instances immediately after birth, in other instances not until several hours have elapsed. They

become cyanotic when removed from oxygen, but the cyanosis is relieved quickly with oxygen. They have moderate to marked intracostal retractions often accompanied by short, whining cries. Clinical and x-ray examinations can quite accurately exclude the presence of such conditions as diaphragmatic hernia, congenital heart disease, spontaneous pneumothorax, and brain damage which may minimize the symptoms of congenital atelectasis.

The treatment in the past has been primarily symptomatic and quite unsatisfactory. About 50 per cent of the infants with the well-developed clinical picture recover spontaneously. Over the past three years we have attempted a surgical procedure on twenty-three newborn infants who appeared to be succumbing to congenital atelectasis. An equal number of infants have been seen and not operated upon. This report concerns primarily the infants who were operated upon. Of the twenty-three infants, eleven have survived,



twelve have died. Twelve of the infants were delivered by cesarean section, an incidence which would, to our minds, definitely establish cesarean section as a causative factor in the development of the congenital atelectasis. Of the remaining infants, only four were considered to have been normal deliveries. The others were delivered with such complications as precipitate delivery, abruptio placenta and marginal placenta previa. Our findings in this respect would definitely implicate abnormal deliveries of one kind or another as being contributory in the development of congenital atelectasis, probably because of the increased chances for aspiration of amniotic fluid and the subsequent development of a hyaline membrane during and following such delivery.

The surgical procedure consists of opening the chest with a short incision through the fourth and fifth interspace on one side. Positive air pressure ranging up to 35 cc. of water is applied through the nose and mouth by a tight-fitting mask. In five instances there was a dramatic expansion of the lungs. These babies survived. In six instances there was no dramatic expansion of the lungs, but these babies also survived. In the remaining patients expansion of the lungs was negligible and the infants did not survive. Many of the infants were moribund at the time of operation.

This experience with congenital atelectasis of the newborn has not led to a completely satisfactory method of treatment. It has helped us to understand the disease process better and has, to our minds, established the importance of the abnormal delivery as one factor in the development of the disease, and it has, in some instances, we believe, helped babies to survive.

### Discussions

DR. W. P. EDER, Minneapolis (by invitation): There is very little I can add to Dr. Berglund's excellent presentation. Perhaps just a word about the rationale of the surgery itself. We had considerable arguing to do to convince the chest surgeons that the procedure had merit. The lungs occupy the entire thorax; therefore, the pressure applied does not expand the lung. It does not help in overcoming the hyaline membrane which Dr. Berglund mentioned. The lung expands with positive pressure. The mediastinum shifts to the side of the thoracotomy and therefore assists the lung on the opposite side to expand. We have been very much interested in this problem. I feel strongly that these eleven infants that survived would definitely not be alive had we not done this procedure.

DR. THOMAS LOWRY, Minneapolis: I don't have a great deal to add. I was privileged to watch one of these procedures (one of the ones which did not result in recovery) but it was a most interesting thing. I don't have enough experience with the condition or its treatment to say much about it. I enjoyed Dr. Berglund's presentation and think we will be watching to see what success is accomplished.

DR. M. B. VISSCHER, University of Minnesota: This is a very interesting problem from the physiologic viewpoint and I was very much interested in the report Dr. Berglund and his associates have given. Atelectasis is a very difficult term to define, as these gentlemen know very well, and I am not quite sure that it is fair to call the situation that they have studied a true atelectasis. If their criterion for diagnosis is valid, namely, that on administration of oxygen the cyanosis is relieved, the lung is not atelectatic but is more likely edematous.

In simple atelectasis, administration of 100 per cent oxygen has little effect upon the arterial oxygen saturation. In pulmonary edema 100 per cent oxygen has very large effects. I would suggest that a study be made of the state of the heart in these newborns. It is extremely likely that left heart failure will be found. Full expansion of lungs with interstitial edema improves blood oxygenation and indirectly relieves heart failure.

May I also raise the question as to whether all possible non-surgical methods for producing greater lung expansion have been tried.

I think there is a lot of very interesting physiology here and want to congratulate the authors on these studies.

DR. HAROLD FLANAGAN, St. Paul: I enjoyed this paper very much; there has been a great deal of work done in producing this paper. Some weeks ago I saw a newborn infant that I thought was a congenital heart. I gave morphine with almost immediate improvement. The infant had an atelectasis, and the relaxing effect of the morphine on the diaphragm and gastric distention, must have been the cause of the immediate improvement.

DR. JEROME HILGER, St. Paul: I should like to comment on what Dr. Berglund has said about endoscopic procedure for the relief of this infant problem. For many years we were called by the pediatricians quite frequently to relieve these children through endoscopic aspiration. It became apparent to us that much of our effort was futile and that in the average case retained secretion available to tracheo-bronchial aspiration was not present in any significant quantity and the effort at aspiration in no way eased the child's problem.

We even had the American Cystoscope people make us a fiber catheter with a Coude angle at the tip with the end open. This was less traumatic than a bronchoscope and just as effectively cleared the sub-glottic trachea and bronchi. It could be directed right or left into the major bronchi. Even its insertion disturbed some of these children a very great deal and we had the feeling that the aspiration in some cases caused more disturbance than improvement. This flexible aspiration catheter, however, did permit one to connect oxygen directly into the trachea and insufflation after the aspiration was very helpful in maintaining a good color. This is very difficult to do with a bronchoscope in place without a great deal more trauma.

It must be borne in mind, however, that the same clinical picture that Dr. Berglund presents can be duplicated by an occasional laryngeal problem developed in the prenatal period such as a laryngeal cyst or web. Since this is true, unless first the larynx and upper air passages are viewed directly, an occasional child with such a lesion is going to have a thoracotomy to no purpose.

Since the thoracotomy does nothing in effect but create space for the lung expansion to take place, and since the latter is accomplished by bag breathing, I would like to ask what other work has been done using this same pressure through the airway but using other methods of increasing the thoracic space for expansion. After all, in normal breathing, we increase our thoracic space by lowering the diaphragm and increasing the rib cage size. I assume there is nothing to prevent the rib cage from increasing in these flaccid chest walls. In so far as lowering the diaphragm goes, certainly the biggest disadvantage is the gas-filled stomach below. If this were decompressed with a continuous in-dwelling catheter in the stomach during the bag insufflation, one would feel as much would be accomplished by the bag pressure under these circumstances as through the creation of more space through an open thoracotomy.

DR. BERGLUND, in closing: Dr. Hilger asked what work has been done in creating pressure through the

mouth and the patient's larynx and how we keep the stomach deflated? We have done that at the time of the procedure. We oftentimes just push our hand on the baby's abdomen. One of the procedures that has been tried is to introduce oxygen into the stomach and let it flow out through a second tube. Ten per cent of the baby's oxygen needs can be maintained by that means. As far as applying pressure to the lungs before operation, we tried that; we had the anesthetist apply pressure in one case for forty minutes; after that time we opened the chest and found the lungs

completely atelectatic. We were convinced by that, and also from what I have read in the literature, that application of positive pressure before the chest is opened does not work. We have not done that as a routine procedure since those early experiences. We felt that opening the chest itself enables the operator to see the lung and see how long the pressure needs to be applied.

Dr. S. R. Maxeiner, Minneapolis, read a paper on "Synovioma; Diagnosis, Prognosis and Treatment."

## SYNOVIAL SARCOMA

### Report of Five Cases

STANLEY R. MAXEINER, M.D., F.A.C.A., F.I.C.S.

and

B. H. MCLAUGHLIN, M.D.

Minneapolis, Minnesota

Synovial sarcoma is a tumor with which surgeons are apparently little acquainted. It is extremely malignant, arising from serous lining of synovial cavities (joint synovial lining and the synovial linings of overlying bursae).

More and more cases are reported in the recent literature, not because of its increased frequency, but because of the awareness of our profession. In 1949, the Mayo Clinic reported only twenty-eight cases with approximately 222 cases reported in the total literature to that date. McCartney of the Department of Pathology of the University of Minnesota, in 1945 reported eight cases, all encountered within the last five years.

### Etiology

*Sex.*—Sex apparently plays no important part.

*Age.*—The average age of the reported cases is approximately thirty-six years.

*Trauma.*—Trauma has been considered, but little definite proof has been established as an etiologic feature.

*Inflammation.*—Inflammation may be an etiologic feature.

*Location.*—The majority of the tumors are located in or near the knee joint. Other common sites are, the foot, thigh, ankle and hand. The majority of reported cases have been found to involve the extremities.

*Symptoms.*—The prevailing clinical symptoms are: (a) pain; (b) presence of a mass; (c) joint dysfunction; (d) fluid swelling of the joint. The average duration of symptoms before diagnosis is probably from two to three years.

*Diagnosis.*—A positive diagnosis is made only by microscopy. These tumors are variable in size, texture, color and consistency. Usually the synovioma is circumscribed by a pseudocapsule. Its consistency may be firm, moderately fibrous, spongy or friable. Pinkish-

grey areas of viable tumor are frequently interspersed with yellow areas of necrosis and brown or red portions resulting from old or recent hemorrhages. Occasionally, there are small areas of calcification. There are three basic morphologic patterns:

1. Formation of tissue spaces that form slitlike clefts to well-defined gland-like spaces containing a serous or mucinous fluid. The mucin production may be confined to the gland-like spaces or may appear as small interstitial accumulations among the endothelial components of the tumor cells.

2. Formation of cell tufts, which varies from compact groups of oval or polygonal cells segregated in solid portions of the tumor to papillary projections extending into clefts and gland-like spaces.

3. Reproduction of epithelial-like cells on a stroma of compact elongated cells with small dark nuclei. There may be a supporting prominent argyrophilic reticulum. Extension of the tumor into vascular channels and invasion into adjacent tissue may occur. Mitotic figures are observed fairly frequently. All synovial sarcomas are malignant, but it is the consensus that they are not all equally malignant. The least malignant are those showing a high degree of histiocystic differentiation, characterized by multinucleated giant cells, pigmented cells and fibrous areas. The most highly malignant are probably those composed of densely packed round, oval and reniform cells, with much supporting reticulum and numerous mitotic figures.

(The above description is by Dr. R. Sanford, Pathologist, Asbury Hospital, Minneapolis.)

*Treatment.*—Treatment is first dependent on an accurate indisputable diagnosis of a malignant synovioma. Radical surgical resection is recommended by some, but is probably grossly inadequate in view of the long time low survival rate. Most writers of experience, advocate radical amputation immediately. The tendency for the lesion to invade is strongly in favor of amputation. Lower quarter resection probably has no advantage over a hip disarticulation.

*Prognosis.*—The prognosis in synovial sarcoma is poor. The disease spreads by invasion, by lymphatics

Dr. Maxeiner is Clinical Professor of Surgery, Department of Surgery, University of Minnesota School of Medicine.

and by the blood stream. Dr. Coventry of the Mayo Clinic at the time that I talked to him, stated that they had no patients alive and well at five years. Three of our five patients reported expired from pulmonary metastases.

### Report of Cases

**Case 1.**—A white woman, forty years of age, consulted us in February of 1950, complaining of a mass on the inner aspect of her right thigh. Her general condition was excellent. Her family and past history, general physical and laboratory examination, together with chest x-rays, were unimportant.

The mass was completely removed, together with a very wide muscular excision and excision of the superficial femoral vein. There was considerable difficulty in obtaining a microscopic diagnosis, several opinions being ventured, and about five days later a consultation of pathologists confirmed the diagnosis of synovium. An immediate exact frozen section diagnosis seemed impossible. The operation was followed by a series of high voltage x-ray treatment. Although reports in the literature admit little if any effect from x-ray therapy, it is still recommended.

One year later, the patient again returned with a mass in the same location and an exarticulation of the hip was done. Again the pathological report revealed the diagnosis of recurrent malignant synovium. The patient did extremely well for a number of months at which time she complained of dyspnea and pain in her chest. Roentgenograms revealed extensive pulmonary metastases from which she expired only four months after her second operation.

**Case 2.**—Mr. T., aged forty, whose family history and previous illnesses are irrelevant, stated that, in 1944, while in the military service he developed pain in his foot. An ankle fusion was done and subsequently a mass appeared on the bottom of his foot. This was excised and a diagnosis of malignant synovium prompted immediate amputation below the knee. This was done at the United States Veterans Hospital in Minneapolis. To date, the patient is well. Pathological examination of the foot, revealed remaining tumor tissue.

**Case 3.**—Also reported from the records of the United States Veterans Hospital in Minneapolis, is the case of a man, aged twenty-three, whose history is unrevealing except as related to his present complaint.

He stated that, in 1947, there was swelling with chilling and fever and inability to straighten his arm. Examination revealed a cystic swelling deep to the biceps and about the size of a baseball.

Through an anterior approach, the mass was removed.

The tumor was attached to the elbow joint capsule. The pathological report was synovial sarcoma of the left elbow. The patient refused amputation and was given extensive x-ray therapy. One year later, examination revealed multiple pulmonary metastases from which he expired.

**Case 4.**—From the records of the United States Veterans Hospital in Minneapolis, also is reported the case of a man, aged twenty-nine, whose family and past history were noncontributory. The symptoms were first noted in 1944, while he was in the navy.

In 1951, the patient was seen at the Veterans Hospital with a tumor of the right knee, anterior and lateral to the patella, measuring 2 x 3 inches. The tumor was firm and nodular, but not tender. It was widely excised under general anesthesia. The frozen section was reported as a xanthoma, but the first permanent section revealed a synovium. An amputation was not done, but the patient was given extensive x-ray therapy. He subsequently developed pulmonary metastases.

**Case 5.**—This is the case of a man, aged thirty, who stated that sixteen years earlier he was operated on for a tumor of his right elbow. It was operated on again in 1946, for the third time in July, 1947, and again in November, 1947. The tumor produced no symptoms, other than a mass in the region of his elbow, approximately 3 x 3½ inches. The mass was widely excised, together with surrounding and invaded tissues. The microscopic diagnosis was fibrosarcoma of the synovial type. In February of 1948 another recurrence was removed and in April of 1948, the patient was seen by Dr. Willard White who performed a disarticulation of the shoulder. Healing was excellent, and there has been no recurrence to date. This history of repeated operations is extremely unusual.

### Summary

Synovial sarcoma, i.e., malignant synovium, must not be confused with giant cell synovium or other tumors. Pathological diagnosis is apparently difficult, and one must be careful and be positive of a diagnosis of synovial sarcoma, before amputation, the most widely accepted procedure, is advised. The survival rate is extremely low, but we believe that an immediate diagnosis with radical surgery affords the best opportunity for a cure.

The meeting was adjourned.

WALLACE P. RITCHIE, M.D., Secretary

### DRUGS TESTED IN TREATMENT OF TUBERCULOSIS

After a review of available data on the action of isonicotinic acid hydrazide and its isopropyl derivative upon the tubercle bacillus *in vitro*, and upon the course of experimental tuberculosis in animals and clinical tuberculosis in man, it may be stated that their demonstrated action, although highly encouraging, appears in no way to alter the basic principles of the treatment of

tuberculosis as presently understood. Much more work will need to be done to ascertain the exact place of these drugs in the treatment of this disease. It is anticipated that further information will accumulate rapidly.—The Executive Committee of the American Trudeau Society (Medical Section of the National Tuberculosis Association), *Tuberculosis Abstracts*, May, 1952.

## ◆ Reports and Announcements ◆

### POSTGRADUATE COURSE— DISEASES OF THE CHEST

The Sixth Annual Postgraduate Course in Diseases of the Chest sponsored by the American College of Chest Physicians, Pennsylvania Chapter and the Laennec Society of Philadelphia, will be presented at the Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, March 23-27, 1953.

This course will emphasize the recent developments in all aspects of the diagnoses and treatment of chest diseases. The course is open to all physicians; however, the number of registrants will be limited.

The tuition fee is \$50 and applicants will be accepted in the order in which they are received. This course has been approved for credits by the American Academy of General Practice. Applications should be sent to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

\* \* \*

### CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION

The thirty-first annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held August 31, September 1, 2, 3 and 4, 1953, inclusive, at the Palmer House, Chicago, Ill.

Scientific and clinical sessions will be given on the days of August 31 and September 1, 2 and 3. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the executive offices, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

\* \* \*

### KENFIELD MEMORIAL AWARD

Competition for the 1953 Kenfield Memorial Scholarship, awarded annually by the American Hearing Society to a prospective teacher of lipreading to the hard of hearing, opens March 1. Application blanks may be obtained from Miss Rose V. Feilbach, chairman of the Society's Teachers Committee, 1157 North Columbus St., Arlington, Va. Deadline for returning applications, completed, is May 1.

Funds for the scholarship were subscribed in 1937 in memory of Miss Coralie N. Kenfield, San Francisco, Calif., who was nationally known for her advanced methods in teaching lipreading. Winner of the award is entitled to take a teacher training course in lipreading from any normal training teacher, school or university in the United States accept-

able to the American Hearing Society's Teachers Committee. The scholarship is to be used within one year from date of award.

An acceptable applicant for the scholarship must be a well-adjusted individual with a pleasing personality, legible lips, a good speech pattern and no unpleasant mannerisms. Graduation from college with a major in education, psychology and/or speech is a requirement. Specifications for a hard-of-hearing contestant include thirty hours of private instruction in lipreading from an approved teacher or sixty hours of lipreading in public school classes under an approved teacher. Rules for competition state that an applicant shall plan to teach lipreading, with or without other types of speech or hearing therapy.

In 1952 the Kenfield Memorial award went to Miss Marion R. Allen, Minneapolis, Minnesota.

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### MANUAL FOR ARTHRITIS CLINICS

A manual for Arthritis Clinics has just been published jointly by the Arthritis and Rheumatism Foundation and the National Institute of Arthritis and Metabolic Diseases. This sixty-four-page book contains practical information on the administration of a clinic for the rheumatic diseases as well as diagnostic criteria, information on selecting and training a clinical staff.

Copies are 50 cents and may be obtained by writing to any of the thirty-two chapters of the Foundation, or to National Headquarters, 23 W. 45th Street, New York 36, New York.

\* \* \*

### HEART SPECIALTY TRAINEESHIPS

Fifteen young physicians have recently been given special training awards under the clinical traineeship program of the National Heart Institute. A total of thirty-two physicians are now receiving heart traineeships, studying in twenty-five institutions in twelve states and the District of Columbia.

Four Minnesota doctors studying under this program are Dr. Bertram Levin, Heart Hospital, Minneapolis; Dr. William F. Maloney and Dr. Daniel H. Simmons at the University of Minnesota Hospitals, Minneapolis, and Dr. Leo Wright at the Mayo Foundation, Rochester.

Since the inception of the program four years ago, 149 physicians have been given the opportunity to acquire special skills in diagnosing and treating the heart diseases which afflict about nine million people in the United States. The majority of these doctors have completed their periods of study and are helping to relieve the serious shortage of physicians who understand techniques of interpreting electrocardiograms, carrying out cardiac fluoroscopy and correlating various diagnostic findings. These doctors will apply and develop their new skills to

(Continued on Page 178)





# Dramamine<sup>®</sup> in Vertigo

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radiation sickness

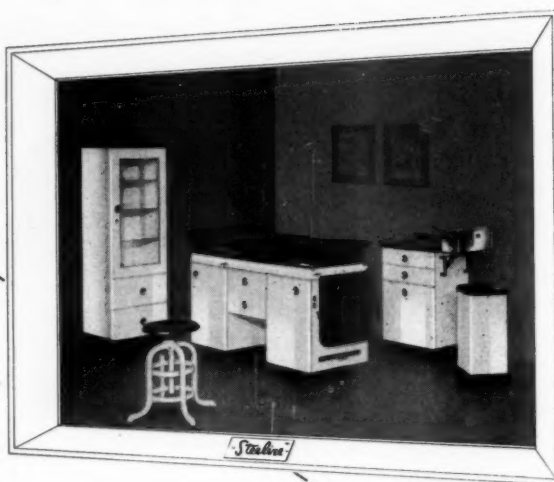


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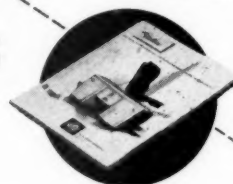


## design achievement in treatment room furniture

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### HEART SPECIALTY TRAINEES

(Continued from Page 176)

improve the health or lengthen the lives of the people they treat, whether as staff members of cardiology departments in hospitals, or in carrying on a high level of private practice.

Traineeships carry stipends of \$3,000 per year for trainees without dependents and \$3,600 for those with dependents. Eligible for such special study are doctors who are citizens, who have completed a general internship, have at least one additional year of experience or training, and are not over forty years of age. Applications for the traineeships may be obtained from the National Heart Institute, Public Health Service, Bethesda 14, Maryland.

### NATIONAL COUNCIL ON RURAL HEALTH

One of the ways in which the physicians of the country are making an effort to improve medical care to citizens and their families is by the holding each year of a National Conference on Rural Health. It is recognized that those who live in the country have special problems which require attention.

For the past seven years a National Conference on Rural Health has been held under the auspices of a group in the American Medical Association known at first as the Committee on Rural Health and of late, The Council on Rural Health. Representatives of rural communities and physicians have gotten to-

gether to discuss rural needs and methods of meeting those needs.

This year's meeting of the Council will be held in Roanoke, Virginia, February 27-28. Dr. F. S. Crockett of Lafayette, Indiana, is chairman of the Council and will be among the speakers. Dr. Louis H. Bauer of Hempstead, New York, president of the AMA and Dr. John M. Travis of Jacksonville, Texas, who was chosen in December by the AMA as "General Practitioner of the Year," will also speak.

### MINNESOTA SOCIETY OF NEUROLOGY AND PSYCHIATRY

The regular meeting of the Minnesota Society of Neurology and Psychiatry was held at the Town and Country Club in Saint Paul, January 13. The scientific program for the evening included Dr. Richard W. Anderson speaking on, "The Use of Electroshock in the Treatment of Hysteria," and Drs. Sidney K. Shapiro and William T. Peyton presented the topic, "Spontaneous Thrombosis of the Carotid Arteries."

### CONTINUATION COURSE

The University of Minnesota announces a continuation course in *Proctology* which will be held at the Center for Continuation Study from April 6 to 11, 1953. The course is intended primarily for physicians engaged in general practice. All aspects of ano-rectal diseases

(Continued on Page 180)

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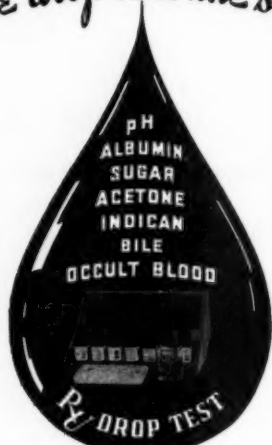
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## CONTINUATION COURSE

(Continued from Page 178)

will be covered, and two half-days will be devoted to operative clinics in which the registrants will take an active part. The visiting faculty will include Dr. Clarence Dennis, Professor and Chairman, Department of Surgery, State University of New York College of Medicine, New York City, who was formerly a member of the Department of Surgery at the University of Minnesota Medical School. The course will be presented under the direction of Dr. O. H. Wangenstein, Professor and Chairman, Department of Surgery; and Dr. Walter A. Fansler, Clinical Professor, and Director, Division of Proctology. The remainder of the faculty will include clinical and full-time members of the University of Minnesota Medical School and Mayo Foundation.

## BLUE EARTH COUNTY SOCIETY

Dr. L. M. Hammar, of Mankato, was elected president of the Blue Earth County Medical Society at the annual meeting, held in December. Other officers elected were Dr. J. A. Butzer, Mankato, vice president; Dr. W. S. Chalgren, Mankato, secretary-treasurer; Dr. J. C. Vezina, Mapleton, delegate to the house of delegates of the state association, with Dr. R. G. Hankerson, Minnesota Lake, as alternate delegate. Dr. H. O. Morgan, Amboy, was elected to the board of censors.

## ST. LOUIS COUNTY SOCIETY

Dr. R. P. Buckley of Duluth, succeeded Dr. P. F. Eckman as president of the St. Louis County Medical Society, January 8. Other officers installed at the annual meeting were Dr. M. O. Wallace, vice president; Dr. D. J. Van Ryzin, secretary-treasurer, and Dr. S. H. Boyer, Jr., president-elect for 1954. New state delegates were Drs. M. G. Gillespie and G. C. MacRae, with Dr. P. G. Boman and R. C. Pedersen as alternates.

The cost of preventable diseases imposes a staggering burden upon the human race. Every step that can be taken toward lessening this burden will not only diminish suffering and prolong human life; it will also increase productivity and promote prosperity.—C. E. A. Winslow, *The Cost of Sickness and the Price of Health*, WHO Monograph Series No. 7, 1951.

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## Woman's Auxiliary

### HENNEPIN COUNTY REPORTS ACTIVITIES

Mrs. Lawrence J. Leonard, President

The auxiliary year is already half over. Committee chairmen are alert and active and much has been accomplished. On October 3, the opening tea honoring officers and new members was held at the home of Dr. and Mrs. Elmer Rusten of Wayzata, which was attended by the state president, Mrs. C. L. Sheedy and some 230 members.

The November meeting included a silver tea for Sarahurst, which is a boarding home for discharged Glen Lake patients. On November 3, forty-nine members stuffed 24,000 Christmas Seal envelopes. The annual Glen Lake sale, November 13 and 14, held at Dayton's, netted \$3,038.50. Members acted as salesladies and the Dayton Company donated space and services. The occupational therapist, Miss Lillian Bergren of Glen Lake Sanatorium, directed the sale of articles made by the patients and they, in turn, received the entire proceeds.

On December 8, the Auxiliary to the Minneapolis District Dental Society invited Hennepin County Medical

Society auxiliary members to a tea at the home of Dr. and Mrs. Ralph Peterson. Over forty of the members attended this delightful event, which was carried out in a Hawaiian theme.

An auxiliary *News Letter*, now in its third edition, is receiving much favorable comment. Mrs. John Milton is the editor.

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### Cook County Graduate School of Medicine

#### POSTGRADUATE COURSES—1953

**SURGERY**—Intensive Course in Surgical Technic, two weeks, starting February 2, February 16, March 2  
Surgical Technic, Surgical Anatomy and Clinical Surgery, four weeks, starting March 2  
Surgical Anatomy and Clinical Surgery, two weeks, starting March 16  
Basic Principles in General Surgery, two weeks, starting March 30  
Gallbladder Surgery, ten hours, starting April 29  
Surgery of Colon and Rectum, one week, starting March 2  
General Surgery, one week, starting February 9  
General Surgery, two weeks, starting April 20  
Fractures and Traumatic Surgery, two weeks, starting March 2  
**GYNECOLOGY**—Intensive Course, two weeks, starting February 16  
Vaginal Approach to Pelvic Surgery, one week, starting March 2  
**OBSTETRICS**—Intensive Course, two weeks, starting March 2  
**PEDIATRICS**—Intensive Course, two weeks, starting April 6  
Congenital Heart Disease, two weeks, starting May 18  
**MEDICINE**—Intensive General Course, two weeks, starting May 4  
Electrocardiography and Heart Disease, two weeks, starting March 16  
Allergy, one month and six months, by appointment  
**UROLOGY**—Intensive Course, two weeks, starting April 13  
Ten-Day Practical Course in Cystoscopy starting every two weeks  
**DERMATOLOGY**—Intensive Course, two weeks, starting May 11

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## In Memoriam

### FRED B. COLEMAN

Dr. Fred B. Coleman, formerly of Austin, Minnesota, died of leukemia at Long Beach, California, in November, 1952. He had retired and moved to California in 1934.

Dr. Coleman was born near Dodge Center, Minnesota, in 1874. He attended Hamline University, Saint Paul, and obtained his M.D. degree from the University of Minnesota in 1909. He was a member of the Mower County Medical Society, the Minnesota State Medical Association and the American Medical Association until 1934.

He served in the medical corps of the United States Army as a captain in World War I and was a fifty-year member of the Fidelity Lodge 391, A.F.&A.M. at Austin.

Surviving are two sisters, Mrs. Jessie A. Allen and Miss Helen A. Coleman, of Long Beach.

### ASA J. HAMMOND

Dr. Asa J. Hammond, a resident of Minneapolis for forty-five years, died December 19, 1952, at the age of eighty-three.

Dr. Hammond was born at Lake City, Minnesota, May 8, 1869. He received his M.D. degree at the University of Minnesota in 1896 and practiced at Winnebago, Minnesota, from 1897 to 1907.

He was a member of the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association and a member of the staffs of St. Barnabas and Eitel Hospitals. He was also a member of the Minneapolis Masonic Lodge.

Dr. Hammond is survived by his wife, Eva, and two daughters, Mrs. Kenneth E. Kelley, Minnetonka Beach, and Mrs. John Campbell, Hopkins.

### RUTH G. NYSTROM

Dr. Ruth G. Nystrom, of Minneapolis, died December 12, 1952. She was fifty-three years of age.

Dr. Nystrom was born August 1, 1899, at Adel, Iowa. She received her medical degree from the University of Minnesota in 1927 and took postgraduate work in European clinics in 1928 and 1929. She practiced gynecology and obstetrics and neuropsychiatry in Minneapolis except for a year spent in Kalamazoo, Michigan, in 1941 and 1942. She was a member of the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association.

Dr. Nystrom is survived by her mother, a sister and two brothers, all of Minneapolis.

### WILLIAM C. RUTHERFORD

Dr. William C. Rutherford, formerly of Saint Paul, died in West Palm Beach, Florida, December 21, 1952.

Dr. Rutherford was born at Crookston, Minnesota, August 2, 1886. He obtained his medical degree from Marquette University, Milwaukee, in 1911 and practiced



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from 1911 to 1946 in Saint Paul. From 1918 to 1920, he served as a major in the Medical Corps of the United States Army.

He was a member of the Ramsey County Medical Society, the Minnesota State Medical Association and the American Medical Association. He was a member of the American College of Surgeons and was the national medical examiner for the Degree of Honor Protective Association, Saint Paul.

In 1946, he moved to Nisswa, Minnesota, and opened an office at Brainerd. In recent years, he motored south where he spent his winters in West Palm Beach. While practicing at Brainerd, he was a member of the Upper Mississippi Medical Society, the Elks Lodge and local Knights of Columbus.

Dr. Rutherford was married to Claire Gibbons, who preceded him in death in 1943. Two half-brothers, Francis A. Jenne, of Saint Paul, and Charles Jenne, of Kansas City, survive him.

### **HAROLD ROBERT STOWE**

Word has been received of the death of Dr. Harold Robert Stowe, former fellow in surgery of the Mayo Foundation, which occurred on December 1, 1952, at Council Bluffs, Iowa.

Dr. Stowe was born May 1, 1917, at Council Bluffs, Iowa. He attended the University of Omaha from 1934 to 1937 and received the degree of M.D. from the University of Nebraska in 1941. He interned at the Ancker Hospital at Saint Paul, Minnesota, from July, 1941, to

October, 1942. He entered the Mayo Foundation as a fellow in surgery in October, 1947, and left the Mayo Foundation in December, 1951. He received the degree of M.S. in Surgery from the University of Minnesota on July 24, 1952.

Dr. Stowe was on active duty with the Medical Corps of the United States Navy from October, 1942, to July, 1947. He was a member of the Alumni Association of the Mayo Foundation.

### **KARL CHRISTIAN WOLD**

Dr. Karl C. Wold, a well-known eye specialist of Saint Paul, died on December 24, 1952, at Princeton, New Jersey, where he was visiting his daughter, Mrs. Robert Johnson.

Dr. Wold was a native of Saint Paul, having been born there July 28, 1891. He graduated from the University of Minnesota Medical School in 1914 and interned at Bethesda Hospital, Saint Paul. He took post-graduate training at the Illinois Eye and Ear Infirmary, Chicago, and the University of Minnesota Department of Ophthalmology in 1915 and at the Chicago Eye, Ear, Nose and Throat Hospital in 1916.

Dr. Wold was a diplomate of the American Board of Ophthalmology (1923) and a member of the Minnesota Academy of Ophthalmology and Otolaryngology, serving as president of the Academy in 1945-1946. He was a Fellow of the American College of Surgeons (1924) and served as chief of staff at Bethesda Hospital

three different times. He was an active member of the Ramsey County Medical Society, the Minnesota State Medical Association and the American Medical Association. He served as a member of the Board of Directors of the Saint Paul Athletic Club from 1943 to 1945.

He lived at Dellwood, White Bear Lake, during the summers for many years and was captain of the White Bear Yacht Club for a number of years, taking a great interest in yacht racing activities. He also served as Commodore of the club.

Dr. Wold acquired considerable notoriety following the publication, in 1949, of his book entitled "Mr. President—How is Your Health." He became interested in the subject in 1941 and carried out considerable research for material for his book. His statement that President Franklin D. Roosevelt had suffered four strokes was denied by members of the President's family, but Dr. Wold did not retract his assertion. He advocated that before renomination presidents should undergo physical examinations by an impartial board.

Dr. Wold was a veteran of World War I. He is survived by his wife, Mabel, two sons, Dr. Keith Wold of Saint Paul and Sidney of Grand Forks, North Dakota; two daughters, Mrs. Robert Johnson of Princeton, New Jersey, and Mrs. John Strong of Austin, Minnesota.

Dr. Wold was an able oculist and his ability and pleasing personality procured him a large clientele and a host of friends.

## Communication

To the Editor:

The American Cancer Society announces that the first four issues of its well-known monograph series are being reprinted. Copies of the following monographs will be available without charge to physicians in Minnesota:

1. *The Cancer Problem*, by Dr. Shields Warren
2. *Cancer of the Head and Neck*, by Dr. Hayes Martin
3. *The Diagnosis of Genitourinary Neoplasms*, by Dr. Victor F. Marshall
4. *Mouth Cancer and the Dentist*, by Dr. Hayes Martin

The Cancer Society has had thousands of requests for these monographs from physicians whose names were not yet on our mailing lists. Requests for back issues and future issues of the monographs may be made by writing the American Cancer Society, 295 North Snelling Avenue, St. Paul 4.

Yours very truly,

ALLAN STONE,

*Executive Director, Minnesota Division  
American Cancer Society, Inc.*

Saint Paul, Minnesota

January 20, 1953

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## ◆ Of General Interest ◆

**Dr. Leslie C. Lane**, ninety-seven, was honored in December as the oldest living graduate of the Rush Medical School of Chicago. Dr. Lane has practiced medicine in Minneapolis, Benson and Ortonville, since he came to Minnesota in 1861.

\* \* \*

**Dr. C. Kenneth Cook** of Saint Paul, has been named chief of staff of St. John's Hospital for the coming year; **Dr. T. S. McClanahan**, White Bear Lake, vice president; **Dr. C. R. Tift**, Saint Paul, second vice president, and **Dr. Frank J. Milnar**, Saint Paul, secretary, at the annual meeting of the medical staff, held December 8, 1952, at the hospital. **Drs. Francis J. Crombie** and **Robert W. Emmons**, both of Saint Paul, were named to the board of directors.

\* \* \*

**Dr. Neil D. Nickerson**, Thief River Falls, attended a postgraduate course in gastroenterology at the University of Pennsylvania, the first week in December.

\* \* \*

**Dr. R. R. Remsberg**, Tracy, attended the semi-annual McKennan Hospital staff clinic at Sioux Falls, South Dakota, December 3. The clinic program included discussion of modern trends in medicine generally, and the treatment of patients following radioactive warfare.

\* \* \*

**Dr. F. J. Hirschboeck**, Duluth, a past president of the Minnesota Heart Association, spoke on the treatment of heart diseases to the twenty-eighth safety school, sponsored by the Duluth Chamber of Commerce Safety Bureau, held December 10, at the Hotel Duluth.

\* \* \*

**Dr. Sam H. Boyer, Jr.**, was named president-elect of the St. Louis County Medical Society at the meeting held December 11, at Duluth. **Dr. R. P. Buckley** was the incoming president and **Dr. Philip F. Eckman**, the retiring president.

\* \* \*

**Dr. Robert R. Kierland**, consultant in dermatology and syphilology in the Mayo Clinic and associate professor in the Mayo Foundation, spoke on allergies at the eleventh annual meeting of the American Academy of Dermatology and Syphilology, held December 10, at Chicago.

\* \* \*

**Dr. M. Clifford Florine** purchased the practice of the late **Dr. Clifford Wadd** (Dr. Wadd was killed in a highway accident in the fall of 1952) in Janesville and began practice in December. Dr. Florine is a graduate of the University of Minnesota Medical School and interned at Gorgas Hospital in the Canal Zone. From 1941 to 1945, he was with the engineering division at the Canal Zone.

A tour of the Variety Heart Hospital was conducted by staff doctors—**Richard Smith**, **Paul Winchell**, **Lewis Thomas** and **R. V. Ebert**—as part of the education program of the chairmen of the 1953 Heart Fund, at a meeting held at the Heart Hospital for fund drive orientation.

\* \* \*

**Dr. James A. Johnson**, president, Hennepin County Chapter, American Cancer Society, and **Dr. Harold S. Diehl**, University Medical School dean, spoke at a cancer workshop December 8, held at Coffman Union on the University Campus.

\* \* \*

**Dr. Arthur Hunt**, Rochester, was elected president of the Minnesota Obstetrical and Gynecological Society at its fall meeting, held December 6 in Minneapolis. He succeeds **Dr. John Haugen**, Minneapolis. **Dr. Arnold Swenson**, Duluth, was named vice president and **Dr. Rodney Sturley**, Saint Paul, was re-elected secretary-treasurer.

\* \* \*

**Dr. Frederick A. Figi**, and **Dr. John B. Erich**, of the Mayo Clinic, won a first place award at the eleventh annual meeting of the American Academy of Dermatology and Syphilology for an exhibit on tumors of blood vessels.

\* \* \*

Gifts totalling \$300,000.00 for research and scholarships at the University of Minnesota were announced by the board of regents, December 12. The funds granted to further the interests of medicine were as follows:

**Dr. John Wild** was granted \$21,616 to perfect instrumentation for the echograph, the ultrasonic device for detecting cancer.

**Dr. F. John Lewis** was granted \$6,370 for additional experimental cardiac surgery.

Sharing in the \$102,000 cancer grants from the United States Public Health Service, were **Dr. George Moore**, cancer co-ordinator, \$25,000 for teaching and clinical work, and **Dr. Jerome T. Syverton**, head of the department of bacteriology and immunology, \$15,000 for research on mouse mammary cancer and leukemia.

Also included in the United States Public Health Service grants were **Dr. Frederic Kottke**, head of the department of physical medicine, \$18,078, and **Dr. Yoshio Sako**, fellow in surgery, \$7,036.

\* \* \*

**Dr. E. H. Hartung**, of Claremont, was selected physician for the Fairview Nursing Home by the Dodge County commissioners, at the meeting held December 2, at Claremont.

\* \* \*

**Dr. D. C. Balfour**, Rochester, has been notified by the permanent secretary of the Académie Nationale de Médecine of France, that he was elected



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\* \* \*

Dr. Ralph E. Worden, former fellow in physical medicine of the Mayo Foundation, recently was appointed director of a new rehabilitation center at the Ohio State University at Columbus.

\* \* \*

Dr. Mildred Schaffhausen, interning at Minneapolis General Hospital, was awarded the scholarship citation and \$100 from the American Women's Medical Association, in December. Dr. Schaffhausen has had a 97.5 average during her four years at the University of Minnesota Medical School.

Officers for the coming year elected by the Freeborn County Medical Society at its annual meeting in December were Dr. C. E. J. Nelson, Albert Lea, president; Dr. T. M. Hansen, Albert Lea, vice president, and Dr. L. E. Steiner, Albert Lea, secretary-treasurer.

\* \* \*

Dr. Robert I. Gruys and Dr. John A. Watkins opened a practice in Wells in December, in the former offices of Dr. W. H. Barr. Both Dr. Gruys and Dr. Watkins are graduates of the University of Minnesota Medical School. Dr. Watkins recently returned from Korea.

\* \* \*

A new television set was donated to the Nopeming

# OF GENERAL INTEREST

Sanatorium at Nopeming by the Military Order of the Purple Heart, Duluth chapter, in December. **Dr. G. A. Hedberg**, chief physician, accepted the gift on behalf of the sanatorium.

\* \* \*

**Dr. A. J. Olson**, Owatonna, was named chairman of the second Steele County x-ray survey program which will begin February 16.

\* \* \*

"The Doctors Mayo," by Helen Clapesattle, editor of the University of Minnesota Press, was recently published in Brazil. The book was originally published in this country in 1941. The Portuguese edition was published under the book translation program of the United States Department of States international information administration.

\* \* \*

**Dr. Robert A. Stoy**, Little Falls, was recalled to Army service in December. Dr. Stoy has been practicing in Little Falls since May, 1949, with **Drs. D. L. Johnson**, **Alfred H. Benson** and **William Skaife**.

\* \* \*

Officers elected at the Fairmont Community Hospital's annual staff meeting were: **Dr. V. M. Vaughan**, Truman, president; **Dr. E. E. Zemke**, Fairmont, vice president, and **Dr. A. L. Ourada**, Ceylon, secretary-treasurer.

\* \* \*

**Dr. L. F. Johnston**, Winona, attended the meet-

ings of the American Academy of Obstetrics and Gynecology, held in Chicago, December 15 to 17.

\* \* \*

Officers elected to the staff of St. Joseph's Hospital at Mankato at the annual meeting December 11, were: **Dr. A. A. Schmitz**, president; **Dr. J. A. Butzer**, vice president, and **Dr. J. C. Von Drasek**, secretary-treasurer. Members of the executive committee named were **Dr. M. I. Howard**, chairman, and **Drs. R. G. Hasset** and **J. A. Butzer**.

\* \* \*

**Dr. John Delmore** of Roseau, was named to succeed **Dr. M. D. Starekow** of Thief River Falls, as president of the Red River Valley Medical Society, at the annual election meeting, held at Crookston, December 12. **Dr. Anthony Berlin** of Hallock, was elected vice president, and **Dr. R. O. Sather** of Crookston, re-elected secretary-treasurer. Delegate named to the Minnesota State Medical Association for a three-year term was **Dr. C. H. Holmstrom** of Warren, with **Dr. J. H. Cameron** of Crookston, as alternate. **Dr. W. W. Rieke** of Wayzata spoke to the group on public health measures in schools.

\* \* \*

**Axel C. Benson**, "head doctor" for forty-two years at Swedish Hospital, will retire in March on his seventieth birthday and go to Florida. Mr. Benson has been "doctoring" heads of hospital patients at Northwestern and Mt. Sinai Hospitals, as well as Swedish Hospital during the last two years since his brother, who was also a barber, died.

\* \* \*

The residence of the late **Dr. and Mrs. W. J. Mayo**, located adjacent to the Mayo Foundation House, will become an adjunct to the house, the Mayo Association announced in December. The house will be called Damon House in honor of Mrs. Mayo, whose maiden name was Hattie Damon.

Some of the rooms are being refurnished. Portraits of Dr. and Mrs. W. J. Mayo are being painted by Bjorn Egeli of Washington, D. C. The portraits, which will be gifts of **Dr. and Mrs. Donald C. Balfour, Sr.**, and **Dr. and Mrs. Waltman Walters**, will hang in one of the two houses.

\* \* \*

**Dr. Richard Carlton Lillehei**, son of **Dr. and Mrs. Clarence I. Lillehei**, of Edina, and **Betty Jeanne Larsen**, of Minneapolis, were married December 20, in the Church of St. Stephen the Martyr at Edina. **Dr. C. Walton Lillehei**, University of Minnesota Hospitals, brother of the groom, was best man and **Dr. James P. Lillehei**, Veterans Administration Hospital, Ft. Snelling, another brother, was an usher. Both Dr. and Mrs. Lillehei were graduated from the University of Minnesota. Dr. Lillehei is a resident in surgery at the University Hospitals.

\* \* \*

**Dr. J. M. Gacusana**, Hot Springs, South Dakota, will begin practice in Mahanomen, March 1. Dr. Gacusana served as an administrator of the hospital at White Earth for a period of time around 1945, so he is familiar with the Mahanomen area.



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**Dr. Kathleen Jordan**, of Riverside Sanatorium, Granite Falls, who is also a physician for the Christmas Seal organization, is busy with a tuberculin testing survey of the people of Lyon County.

\* \* \*

**Dr. Robert P. Meyer**, Faribault, spoke at the regular weekly meeting of the Faribault Rotary Club, December 31. His subject was "The Detection of Cancer."

\* \* \*

**Dr. S. C. Blackmore**, who has owned and operated the Bray Hospital at Biwabik for the last two years, has sold the buildings to Mrs. Harold Johnson, former county nurse in the area, who will begin operation of a private rest home early in 1953.

Dr. Blackmore will continue to have an office in the building and will maintain his practice as usual.

\* \* \*

**Dr. James Reinhardt**, originally from Detroit Lakes, began practice in Alexandria early in January. Dr. Reinhardt received his medical degree from Temple University in Philadelphia in 1947, and completed his internship at Northwestern Hospital, Minneapolis.

\* \* \*

**Dr. Frank Heck**, Mayo Clinic staff, was married to Dr. Louise M. Paul, Wakefield, New Hampshire, in December.

\* \* \*

**Dr. Wesley Spink**, professor of medicine at the University of Minnesota, was one of ten doctors to

receive awards for distinguished achievement in 1953 from *Modern Medicine*. Dr. Spink was cited for leading the development of preventive measures and treatment of brucellosis.

\* \* \*

**Dr. Orwood J. Campbell**, Minneapolis, who became president of the Minnesota State Medical Association, January 1, will preside over the centennial celebration scheduled for this year in honor of the founding of the State Medical Association in 1853.

\* \* \*

**Dr. J. F. DuBois, Jr.**, Sauk Centre, was elected president of the medical staff of St. Michael's Hospital in Sauk Centre at the staff's annual meeting, held December 16. **Dr. A. H. Borgerson**, Long Prairie, was elected vice president, and **Dr. W. D. Cleaves**, Sauk Centre, secretary.

\* \* \*

**Dr. W. E. Herrell**, of the Mayo Clinic staff, was quoted in an article appearing in the December issue of *The Ladies Home Journal*. Written by William L. Laurence, the article was entitled, "Life-saving Drugs Can Harm You." What medical leaders in the field have said about the danger of indiscriminate use of the various antibiotics was emphasized throughout the article. A statement by Dr. Herrell, made at a meeting of the American Therapeutic Society in Chicago—"There is nothing wrong with the antibiotics—the trouble is with the people prescribing them," was quoted.



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Dr. John Austin Culligan, Rochester, son of Dr. and Mrs. John M. Culligan of Saint Paul, was married to Miss Sheila Spriggs of Rochester, December 27, in Saint Paul. Dr. John Phelan of Duluth and Dr. Bernard Spencer of Rochester were two of the ushers. Dr. Culligan is on leave from a fellowship with the Mayo Foundation to serve with the navy medical corps.

\* \* \*

The Estrem Clinic at Fergus Falls has now moved into a new, larger building and has a new name—the Park Region Medical Center. Medical staff of the center includes Drs. Carl O. Estrem and Emmett A. Heiberg, general medicine; Dr. Glenn J. Mouritsen, internal medicine and skin diseases; Dr. Carl J. T. Lund, obstetrics and gynecology; Dr. Robert D. Estrem, surgery; Dr. Ralph L. Estrem, internal medicine and x-ray, and Dr. Rolf Daehlin, children's diseases and obstetrics. An ophthalmologist is expected to join the staff in the spring.

\* \* \*

Three Thief River Falls physicians—Drs. Philip Parker, Forrest Rowell, Jr., and Ted Bratrud—will staff the Oklee Medical Clinic until a resident physician can be found. This arrangement began December 19.

\* \* \*

Dr. D. C. Anderson, Olivia, was called back into active military service and closed his office December 26. He was assigned to the Naval Air Station at Pensacola, Florida.

\* \* \*

Dr. Frank W. Reibold was elected president of the staff of St. Mary's Hospital, Duluth, at the staff meeting held December 24. Other officers named were Dr. Joseph H. Weisberg, vice president; and Dr. Milton Finn, secretary-treasurer.

\* \* \*

"The Doctors' Roundtable," a WCCO-TV program on Sunday, December 28, featured Dr. J. Arthur Myers, professor of medicine and public health at the University of Minnesota; Dr. John F. Briggs, chief of medicine at Ancker Hospital in Saint Paul, and Dr. Ezra V. Bridge, superintendent of Mineral Springs Sanatorium, Cannon Falls. The doctors discussed diseases other than tuberculosis which are discovered as a result of chest x-ray programs.

Dr. George B. Eusterman, emeritus member of the Mayo Clinic staff, was appointed chief of medicine and director of education of Sinai Hospital in Detroit, Michigan, in December. Dr. Eusterman received his medical degree from the University of Minnesota in 1908 and joined the Mayo Clinic staff the same year.

\* \* \*

Three new physicians on the Rochester State Hospital staff are Dr. Frances M. Richards, internal medicine, and Drs. Conrad W. Baars and Ralph T. Taubert, psychiatrists.

Dr. Richards was graduated from the University of Alberta, Canada, Medical School and interned at Minneapolis General Hospital.

Dr. Baars, a 1945 graduate of the University of Amsterdam, Holland, Medical School, came to the United States in 1946, on a fellowship to Lorrette Hospital, Chicago. He spent a year's residency in psychiatry at Minneapolis General Hospital and served fifteen months as psychiatrist and acting clinical director at Anoka State Hospital. Recently Dr. Baars returned from active military duty at the Specialized Medical Center, Camp Cooke, California.

Dr. Taubert was graduated from the University of Michigan Medical School in 1949 and then interned at Minneapolis General Hospital. He was on the staff of the Hastings State Hospital before coming to Rochester.

Drs. Donald and Gloria Taylor have resigned to go into private practice in San Diego and Dr. D. E. McBroom has retired.

\* \* \*

Dr. A. J. Chesley, director, Minnesota State Board of Health; Dr. W. W. Barr, deputy director, and Dr. Helen L. Knutson, director of the division of hospital services, represented the State Board of Health at a meeting, held at Thief River Falls, December 17, to discuss the future of Oakland Park Sanatorium. Reorganization of existing facilities for care of tuberculosis patients over the state is under way.

\* \* \*

Dr. Lewis Hanson, Frost, was recently appointed by the county commissioners to serve on the Faribault County Public Health Nursing Advisory Board

## OF GENERAL INTEREST

as its medical director. **Dr. R. G. Hankerson**, Minnesota Lake, has been the medical director since the public health nursing service was established in 1946.

\* \* \*

**Dr. Howard R. Hartman**, a member of the permanent staff of the Mayo Clinic since 1919, and head of a section in the division of medicine since 1938, retired from the Clinic, December 31. Dr. Hartman, who gained national recognition as an authority on the stresses and afflictions to which busy executives may be peculiarly susceptible, came to Rochester as an intern on July 1, 1914. He was graduated from the University of Michigan Medical School.

\* \* \*

Many doctors from the area attended the doctors and editors Press-Radio-Medical dinner meeting, held at Brainerd, December 13. Discussion leaders for the program were **Dr. Hadden Carryer**, Mayo Clinic; **Carl C. Carlson**, Editor, *Long Prairie Leader*; **Ed Tom O'Brien**, Brainerd, owner of Radio Station KLIZ, and **Manley Brist**, Saint Paul, attorney for the Minnesota State Medical Association.

\* \* \*

**Dr. Donald Myhren Larson**, Chicago, son of **Dr. and Mrs. Clarence Myhren Larson**, Minneapolis, was married to Miss Florence May Cadwell of Springfield, Illinois, December 27, at Chicago. **Dr. Roger Clarence Larson** of Washington, was his brother's best man.

**Dr. E. T. Leddy**, Mayo Clinic, addressed a meeting of the staff of the Veterans Administration Hospital in Grand Island, Nebraska, December 18, on "Some Combinations of Radiologic and Surgical Methods Worthwhile in the Treatment of Cancer."

\* \* \*

**Dr. J. C. Westerberger**, of Austin, moved his offices from the downtown district to his residence in December. Dr. Westerberger has practiced medicine for fifty-five years and plans to retire soon. He will continue his practice for a time from his residential office, however.

\* \* \*

Research grants approved upon recommendation of the National Advisory Arthritis and Metabolic Diseases Council of the Public Health Service for February, 1951 to June, 1952, totaled \$1,743,839, some \$670,000 being in the field of metabolism, \$510,000 in arthritis research, and the balance scattered. Support has been provided for 170 research projects in seventy-nine institutions, located in thirty-two states, the District of Columbia, and three foreign countries. The National Institute of Arthritis and Metabolic Diseases which was established by Congress in 1950, within the Public Health Service is directed by **Dr. Russell M. Wilder**. Some seventy-eight beds in the new clinical center about to be opened at Bethesda, Maryland, have been allocated to this institute. In addition to this government-supported project the Arthritis and Rheumatism Foundation

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Anesthetic in Hospital.....	10.00	20.00	30.00	40.00
X-Ray in Hospital.....	10.00	20.00	30.00	40.00
Medicines in Hospital.....	10.00	20.00	30.00	40.00
Ambulance to or from Hospital.....	10.00	20.00	30.00	40.00
<b>COSTS (Quarterly)</b>				
Adult .....	2.50	5.00	7.50	10.00
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Child over age 19 .....	2.50	5.00	7.50	10.00

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\* \* \*

**Dr. F. J. Hirschboeck** and **Dr. Gordon Strewler** were elected directors of the David L. Tilderquist Memorial Library Association of Duluth, at the annual meeting, held January 8.

\* \* \*

**Dr. Carl B. Thuringer**, Rochester, became associated in practice with **Dr. P. L. Halenbeck** and **Dr. Robert R. Petersen** in the Granite Exchange Building, St. Cloud, in January. Dr. Thuringer received his medical degree from the University of Oklahoma, interned at St. Anthony's Hospital in Oklahoma City and then spent two years in the army medical corps. In 1949, Dr. Thuringer entered the Mayo Clinic on a fellowship in general surgery which he recently completed.

\* \* \*

Contributions to the American Medical Education Foundation in 1952 totaled more than \$886,430. This includes the grant of \$500,000 voted by the House of Delegates in December, 1951. An equal grant was voted by the House of Delegates in December, 1952. During the year 1952, 6,739 contributions were received from 6,697 individuals, eleven laymen, and thirty-one organizations. This was 4,863 more contributors than in 1951.

\* \* \*

**Dr. M. M. Hargraves**, Mayo Clinic physician who is known for his knowledge and practice of land conservation, was featured in the *Saint Paul Sunday Pioneer Press* (Jan. 4, 1953, Pictorial Section) for his accomplishments aside from medicine. As a doctor, Dr. Hargraves is internationally known for his work on blood and bone marrow.

\* \* \*

**Dr. Milan E. Knapp** of Minneapolis, spoke in Willmar, January 5, at a March of Dimes benefit supper given by the Kandiyohi County March of Dimes Chapter.

\* \* \*

**Dr. Robert H. Alway**, a graduate of the University of Minnesota medical school, has been named chief of pediatrics at the National Jewish Hospital, Denver, Colorado.

**Dr. D. C. Balfour**, of the Mayo Clinic, who suffered a heart attack on Christmas Day, is recovering satisfactorily at the Worrall Hospital.

\* \* \*

The National Foundation for Infantile Paralysis has been providing financial assistance yearly since 1949 to the Committee on Careers in Nursing which is endeavoring to recruit students for both professional and practical nursing schools. The grant this year will be \$35,837. The work of the Foundation is handicapped by the lack of nurses, the shortage for civilian need alone being some 50,000.

\* \* \*

**Dr. Robert A. Rosenthal**, Saint Paul pediatrician, spoke on "Medicine and Shakespeare" at the meeting of the senior members of the Women's City Club, held January 14, in Saint Paul. Dr. Rosenthal is a student of Shakespeare.

\* \* \*

**Dr. George Haggard**, retired Minneapolis physician, was honored in the news recently for his long years of practice in Minnesota. Dr. Haggard was formerly a machinist and worked for the Milwaukee Road but decided to go to medical school, graduating at the age of thirty-six. In spite of his late start, Dr. Haggard conducted his medical practice for sixty years.

\* \* \*

**Dr. S. C. Blackmore**, of Biwabik, lectured on heart disease at a meeting of the American Legion Auxiliary, January 20.

\* \* \*

**Dr. John J. Heisler**, Richfield health officer, resigned in January to leave for service with the army medical corps.

\* \* \*

The eighty-nine member chapters of the Muscular Dystrophy Association of America has just completed its second annual crusade to raise funds for research as to the cause of this disease, which is purported to affect more than 100,000 persons in the country, for the most part youngsters destined to die young. Muscular dystrophy research projects have been established in seventeen laboratories in the United States and abroad. This humanitarian project merits the support of the public. Contributions



## OF GENERAL INTEREST

may be sent to local Chapters or to the Muscular Dystrophy Association, New York 8, New York.

\* \* \*

**Dr. John Mastin Travis**, of Jacksonville, Texas, was named the General Practitioner of the Year by the House of Delegates at the clinical session of the AMA held in Denver in December. Dr. Travis, a general practitioner for the past forty-five years, has been most active in civic affairs, a leader in the promotion of public health and sanitation in the East Texas area particularly, and active in medical affairs.

\* \* \*

**Dr. Howard A. Rusk**, director of the Institute of Physical Medicine and Rehabilitation of the New York University—Bellevue Medical Center, has been named as the 1952 winner of the \$10,000 Dr. C. C. Criss Award and gold medal in recognition of his work in rehabilitating the physically handicapped. The award was established by Mutual Benefit Health and Accident Association of Omaha to honor outstanding contributors to the fields of health and safety. Winners in 1951 were **Dr. Edward C. Kendall**, bio-chemist, and **Dr. Philip S. Hench**, of Rochester. Awards are not limited to physicians, but Dr. Rusk was chosen from a list of some 150 nominees by a board of judges composed of prominent men and women in various fields, including **Dr. John W. Cline** and **Dr. C. W. Mayo**.

\* \* \*

**Dr. Owen H. Wangenstein**, chairman of the University of Minnesota medical school department of surgery, spoke at the dedication of a new \$450,000 hospital at Hudson, Wisconsin, January 18.

\* \* \*

**Dr. Frank G. Farley**, joined the staff of the Adams Clinic at Hibbing in January. Dr. Farley is a graduate of Syracuse College of Medicine and served two years in the army medical corps. Recently he completed four years of specialized training in surgery.

\* \* \*

**Dr. Henry L. Taylor**, of the University of Minnesota staff, spoke to the Braham Area PTA on "You, Your Heart and the Future," January 19.

\* \* \*

**Dr. H. W. Meyerding**, of the Mayo Clinic, was elected to Fellowship in the New York Academy of Sciences at the annual meeting, held recently in New York City. Dr. Meyerding was honored in recognition of his outstanding scientific achievements.

\* \* \*

**Dr. George F. Allen**, Veterans Administration Hospital, Batavia, New York, started as assistant medical director at Mineral Springs Sanatorium, January 3. Dr. Allen received his medical degree from the University of Rochester, Rochester, New York, and did research work in biological sciences at Johns Hopkins Hospital in Baltimore. He served in the army for three years, including overseas duty in the Pacific Theatre.

\* \* \*

**Dr. Lyle A. French**, neuro-surgeon, Minneapolis, gave a medical lecture at the Ft. Meade Veterans



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## OF GENERAL INTEREST

Hospital, South Dakota, in January. Dr. French addressed the group of Black Hills physicians on "Head Injuries."

\* \* \*

**Dr. George Flora**, who recently returned from service with the army in Korea, began practice with Dr. F. S. Howe in Leads, South Dakota, in January. Dr. Flora took his internship at St. Barnabas Hospital in Minneapolis.

\* \* \*

**Dr. David A. Boyd, Jr.**, of the Mayo Clinic, was re-elected secretary-treasurer of the American Board of Psychiatry and Neurology at a meeting of the Board, held recently in New York.

\* \* \*

**Dr. John Boehr** was elected chief of staff of Abbott Hospital, January 6. He succeeds **Dr. O. S. Wyatt**. Other officers named included **Dr. John PETERS**, vice president, and **Dr. John Tobin**, secretary.

\* \* \*

**Dr. Homer Irwin**, of the Hibbing General Hospital, spoke at a recent meeting of area representatives

on the organization of a blood bank. The campaign to establish a blood bank is sponsored by the Rotary Club of Hibbing; the bank would serve residents of Buhl, Chisholm, Hibbing, Keewatin, Nashauk, Pengilly, Side Lake and surrounding area.

\* \* \*

**Dr. Edward L. Strem**, Saint Paul pediatrician, was a special guest of the Saint Paul Chapter of B'nai B'rith Women at a dessert luncheon, held at the Jewish Community Center, January 7.

\* \* \*

**Dr. E. G. Hubin**, of Sandstone, recently completed a new office building and moved in, January 1.

\* \* \*

**Dr. Albert J. Chesley**, executive officer of the Minnesota State Board of Health, was recently awarded an outstanding achievement medal by the University of Minnesota, and a distinguished service medal by the Minnesota State Medical Association, for his contributions to the field of health. Dr. Chesley has been executive officer of the state board of health for nearly thirty-one years and has the longest service in the department—nearly fifty-one years.

\* \* \*

**Dr. W. D. Brodie** of Saint Paul, was recently named chief of staff of St. Luke's Hospital at the recent annual meeting. **Dr. D. L. Martin** was named chief of staff-elect and **Dr. John V. Farkas**, secretary of the staff.

Other officers elected include **Dr. Victor P. Hauser**, chief of surgery; **Dr. E. J. Black**, chief of medicine; **Dr. J. S. McCabe**, chief of obstetrics-gynecology, and **Dr. J. W. Edwards**, chief of general practice.

\* \* \*

**Dr. D. R. Philp**, associated with **Dr. L. J. Hoyer** in the Windom Clinic for the past two years, has been recalled to active duty with the navy medical corps. Dr. Philp will report to Camp Pendleton for indoctrination, February 25.

\* \* \*

**Dr. Samuel F. Haines**, previously vice chairman of the board of governors of the Mayo Clinic, was elected chairman at the January 5 meeting. He succeeds **Dr. Arlie R. Barnes**, who resigned because of illness. Succeeding Dr. Haines as vice chairman of the board is **Dr. J. T. Priestly**.

\* \* \*

Seven appointments to the staff of the Mayo Clinic became effective in January. The new consultants are as follows:

**Dr. Franklin H. Ellis, Jr.**, A.B., Yale University, 1941, M.D., Columbia University College of Physicians and Surgeons, 1944, and Ph.D. in surgery from



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the University of Minnesota in June, 1951. Dr. Ellis has been an assistant to the staff in surgery since January, 1952.

**Dr. Ray W. Gifford, Jr., B.S.,** Otterbein College, Ohio, 1944; M.D., Ohio State University College of Medicine, 1947, and M.S. in medicine from the University of Minnesota in June, 1952. Dr. Gifford has been an assistant to the staff in medicine since July 1952.

**Dr. Lowell L. Henderson, A.B.,** Indiana University, 1937; M.D., Indiana University Medical Center, 1941, and M.S. in medicine from the University of Minnesota in June, 1948. Dr. Henderson has been associated with the Carle Hospital Clinic at Urbana, Illinois, since 1948.

**Dr. Thomas P. Kearns, A.B.,** University of Louisville, 1943; M.D., University of Louisville School of Medicine, 1946, and M.S. in ophthalmology from the University of Minnesota in August, 1952. Dr. Kearns has been an assistant to the staff in ophthalmology since April 1952.

**Dr. William H. ReMine, B.S.,** University of Richmond, 1940; M.D., Medical College of Virginia, 1943, and M.S. in surgery from the University of Minnesota in December, 1952. Dr. ReMine has been an assistant to the staff in surgery since October, 1950.

**Dr. Paul W. Scanlon, B.A.,** Syracuse University, 1943; M.D., Syracuse University College of Medicine, 1946, and M.S. in radiology from the University of Minnesota in December 1952. Dr. Scanlon has been an assistant to the staff in therapeutic radiology since January, 1952.

**Dr. John H. Thompson, Jr., A.B.,** Heidelberg College, Tiffin, Ohio, 1943; M.S., Ohio State University Graduate School, 1948, and Ph.D. in parasitology from the University of Minnesota in December, 1952.

\* \* \*

**Dr. Wilder Graves Penfield,** director of the Montreal Neurological Institute and internationally known as an outstanding brain surgeon, was the only Canadian to be awarded the Order of Merit given outstanding citizens of the British Commonwealth and the world on New Year's day. Recipients in the past

have been Winston Churchill, John Masefield, and General Eisenhower. The order entitles them to place the initials "O.M." after their names.

The award is of special interest to our locality in that Dr. Penfield is a native of Hudson, Wisconsin. He spent much of his youth in Hudson and his wife is also a native of that city.

\* \* \*

**Dr. Erick Y. Hakanson** has become associated with **Dr. Norbert J. Lilleberg** and **Dr. P. Theodore Watson**, 861 Lowry Medical Arts Building in Saint Paul. His practice will be limited to obstetrics, gynecology and infertility.

\* \* \*

**Dr. Irvine McQuarrie**, professor and head of the Department of Pediatrics at the University of Minnesota, Minneapolis, will be guest-participant in panel discussions at the First Western Hemisphere Conference of the World Medical Association at Richmond, Va., on April 24, 1953.

The sessions will provide opportunity for a discussion of current medical problems between representatives of the national medical societies of Latin America and United States specialists and practitioners. Dr. Louis H. Bauer, president of the American Medical Association and secretary-general of the World Medical Association, will moderate at a general session at which panel reports will be made.

Dr. McQuarrie will contribute a chapter on major advances in the field of pediatrics to a volume com-

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## OF GENERAL INTEREST

memorating the conference. He is a diplomate of the American Board of Pediatrics and a member of the American Academy of Pediatrics and the American Society for Clinical Investigation. At the present time he is president of the American Pediatric Society. Dr. McQuarrie, a graduate of the Johns Hopkins University School of Medicine, has been visiting professor under the auspices of the Rockefeller Foundation, in both China and Japan.

\* \* \*

**The Minnesota Society for Mentally Retarded**, of which Mr. Walker Groetzing is president, is a member of the National Association for Retarded Children which was founded in 1950 and now has 129 units in thirty-three states and the District of Columbia. The National Association recently named Dr. Grover F. Powers, Professor Emeritus in Pediatrics, Yale University, chairman of a twenty-five member national board composed of eminent scientists in the country to direct research on mental retardation. Dr. Powers, an internationally recognized child specialist, teacher and researcher is a consultant of the American Academy of Pediatricians, of which he is a Fellow.

\* \* \*

### BLUE CROSS-BLUE SHIELD

By the beginning of 1953, in slightly more than five years of its existence, Minnesota Blue Shield has enrolled over 560,000 subscribers or approximately one-fifth of the entire population of the state. During this same period it has paid over \$10 million to the medical profession for the subscribers' medical benefits. It now has almost 2800 participating physicians in Minnesota, and it processes practically 10,000 claims a month. During its brief span of life it has increased its benefits to subscribers on four separate occasions and has raised its rates only once and that a minimum amount for only two types of contract holders. This briefly establishes the salient features of Blue Shield's progress in Minnesota to date.

As the number of its subscribers passed the half million level, Minnesota's plan has now become the eleventh largest Blue Shield Plan in the country. Despite this, its present enrollment is only slightly more than one-half that of its companion organization, Minnesota Blue Cross, which indicates that the saturation point is not close at hand and that Minnesota Blue

Shield is still a lusty, growing organization. In other words, the present enrollment in Blue Shield is not the end but merely the start of prepaid medical coverage, and every effort is to be put forth to extend to as many residents of the state as is possible the benefits which are provided by the Blue Shield plan.

Steadily increasing payments of claims or benefits are not only the result of the growing number of subscribers, but are also related to the increases in benefits or fees which recently went into effect. It is noteworthy that the number of claims processed per month has more than doubled since August, 1950, and through that same period the amount of money paid for medical benefits each month has almost doubled. With increases of fees or benefits for almost 100 of the total 1000 items of the Schedule of Payments having been made effective several months ago, it is to be expected that the amount of money paid to doctors as medical benefits will increase even more rapidly than before.

Another facet of Blue Shield's development which merits consideration is its slow yet steady increase of participating physicians. In spite of the fact that during the past two years over 100 of Minnesota's participating physicians have entered the military service there are now about fifty more participating physicians than two years ago. In fact, with 2800 Minnesota doctors having signed the participating agreement, it can be said that, with the exception of one large group, less than 100 practicing physicians of the state have failed to affiliate themselves with the Minnesota Blue Shield program.

With these developments, it is evident that Blue Shield is playing a prominent role in the general scheme of medical care in Minnesota. An ever-expanding segment of the state's population obtains a greater portion of its medical care bill through Blue Shield. Continuing and even more energetic or at least more articulate support and promotion of the Blue Shield program by the doctors of the state should lead to more and better care for the people and greater prosperity for those who provide the care.

Blue Shield payment for surgical-medical care of Minnesota Medical Service incorporated participant subscribers:

For 12 months of 1951	\$3,095,213.00
For 11 months of 1952	\$3,337,875.00

Blue Cross payment for hospital care of Minnesota Hospital Service Association participant subscribers:

For 12 months of 1951	\$11,312,390.00
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## BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

### BOOKS RECEIVED FOR REVIEW

**SECOND ANNUAL REPORT ON STRESS.** Hans Selye, M.D., Ph.D. (Prague), D.Sc. (McGill), F.R.S. (Canada). Professor and Director of Institut de Médecine et de Chirurgie expérimentales, Université de Montréal; and Alexander Horava, M.D. (Lausanne), Research Associate and Librarian of the Institut de Médecine et de Chirurgie expérimentales, Université de Montréal. 526 pages. Illus. Price \$10.00, cloth. Montreal: Acta, Inc., 1953.

**ENDOCRINE TREATMENT IN GENERAL PRACTICE.** Edited by Max A. Goldzieher, M.D., and Joseph W. Goldzieher, M.D. 474 pages. Illus. Price \$8.00, cloth. New York: Springer Publishing Co., 1953.

**CLINICAL OBSTETRICS.** Edited by Clifford B. Lull, M.D., Late Director, Division of Obstetrics and Gynecology, Pennsylvania Hospital; and Robert A. Kimbrough, M.D., Director of the Division of Obstetrics and Gynecology, Pennsylvania Hospital, Professor of Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania, Gynecologist to the Graduate Hospital. 732 pages. Illus. Price \$10.00, cloth. Philadelphia: J. B. Lippincott Co., 1953.

**THE LITERATURE ON STREPTOMYCIN, 1944-1952.** Compiled by Selman A. Waksman. 2nd ed. 553 pages. Price \$5.00. New Brunswick, N. J.: Rutgers University Press, 1952.

Who could be more competent to compile a bibliography on streptomycin than Selman A. Waksman, who has just recently been awarded the Nobel Prize in medicine and physiology for "his discovery of streptomycin, the first effective antibiotic against tuberculosis?"

The first edition of this bibliography appeared in 1948 when the references on streptomycin numbered nearly 1,200. Now there are nearly 6,000 on this subject. To keep this bibliography up to date, the present plan is to publish annual supplements to this volume.

Dr. Waksman explains in the preface the scope of this comprehensive bibliography and the policy of inclusion or rejection of references which guided him.

The references are arranged in as nearly chronological order as possible. Articles which were important forerunners to the discovery of streptomycin are listed first. They are numbered in Roman numerals. The rest are numbered in Arabic numerals. Number 1 is given to the first paper in which the isolation of streptomycin was announced in 1944.

There are two excellent indices to the bibliography. One is the complete author index; the other is a subject index, which is quite detailed.

M.M.P.

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## PLACEMENT SERVICE

The Minnesota State Medical Association maintains a Medical Placement Service for the benefit of physicians who are looking for locations and positions; also for communities, medical groups and physicians who are looking for licensed medical assistance. For information, write to the Minnesota State Medical Association, 496 Lowry Medical Arts Bldg., Saint Paul 2, Minnesota.

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## Index to Advertisers

Abbott Laboratories.....	110	Juran & Moody.....	187
Aloe, A. S., Co.....	178	Lederle Laboratories.....	Facing Page 112
American Meat Institute.....	112	Lilly, Eli, & Co.....	Front Cover, 124
American Medical Association.....	179	Mead Johnson & Co.....	200
American National Bank.....	194	Medical Protective Co.....	182
Ames Co., Inc.....	106	Merck & Co., Inc.....	119
Anderson, C. F., Co.....	184	Milwaukee Sanitarium.....	Back Cover
Ayerst, McKenna & Harrison, Ltd.....	108	Mounds Park Hospital.....	Back Cover
Baker Laboratories, Inc.....	116	Murphy Laboratories.....	193
Bellson's Medical Employment Service.....	197	North Shore Health Resort.....	183
Benson Optical Co.....	193	Orgo Products Co.....	180
Bilhuber-Knoll Corporation.....	185	Parke, Davis & Co.....	Inside Front Cover, 97
Birches Sanitarium, Inc.....	190	Patterson Surgical Supply Co.....	194
Brown & Day, Inc.....	188	Pfizer, Chas., & Co.....	105
Buchstein-Medical Co.....	194	Physicians Casualty Association.....	191
Camel Cigarettes.....	123	Physicians & Hospitals Supply Co.....	98, 195
Caswell-Ross Agency.....	102, 103	Professional Credit Protective Bureau.....	101
Chester-Kent, Inc.....	196	Quincy X-Ray & Radium Laboratories.....	195
Classified Advertising.....	198	Q-Test Distributors of Minneapolis.....	115
Coca-Cola Co.....	181	Radium Rental Service.....	180
Cook County Graduate School of Medicine.....	182	St. Croixdale Sanitarium.....	100
Cordelia of Hollywood.....	111	Schering Corporation.....	109
Crestview Hospital.....	185	Searle, G. D., & Co.....	177
Dahl, Joseph E., Co.....	180	Smith-Dorsey.....	104
Danielson Medical Arts Pharmacy, Inc.....	197	Squibb.....	117
Druggists Mutual Insurance Co.....	195	Ulmer Pharmacal Co.....	197
Ewald Bros.....	Inside Back Cover	Upjohn.....	121
Fuller Pharmaceutical Co.....	118	U. S. Vitamin Corporation.....	114
General Electric Co.....	120	Wander Co.....	113
General Pharmacal Corporation.....	115	Winthrop-Stearns, Inc.....	107
Glenwood Hills Hospitals.....	199	Wyeth.....	122
Hall, Anderson & Nordehn.....	181		
Hazelden Foundation.....	189		
Homewood Hospital.....	192		
Interstate Pharmacal Co.....	197		